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Current Comment.

THE time of effective legislation against trusts is at hand. It is significant of the temper of public opinion on the subject that the first bill introduced in the Senate of the present Congress is a bill against trusts. The bill referred to is the same that was offered last year by Senator Sherman, and published in these columns. To be complete, anti-trust legislation must be both state and national. As a model of state legislation we give below, at the request of a subscriber, the Missouri anti-trust law:

SECTION 1. If any corporation organized under the laws of this or any other state or country, for transacting or conducting any kind of business in this state, or any partnership or individual, or other association of persons whosoever, shall create, enter into, become a member of or a party to any pool, trust, agreement, combination, confederation, or understanding with any other corporation, partnership, individual, or any other person or association of persons to regulate or fix the price of any article of merchandise or commodity, or shall enter into or become a member of or a party to any pool, agreement, contract, combination or confederation to fix or limit the amount or quantity of any article, commodity, or merchandise to be manufactured, mined, produced or sold in this state, shall be deemed and adjudged guilty of a conspiracy to defraud, and be subject to indictment and punishment, as provided in this act.

SEC. 2. It shall not be lawful for any corporation to issue or to own trust certificates, or for any corporation, agent, officer, or employee, or the directors or stockholders of any corporation, to enter into any combination, contract or agreement with any person or persons, corporation or corporations, or with any stockholder or director thereof, the purpose and effect of which combination, contract or agreement shall be to place the management or control of such combination or combinations, or the manufactured product thereof, in the hands of any trustee or trustees, with the intent to limit or fix the price or lessen the production and sale of any article of commerce, use or consumption, or to prevent, restrict or diminish the manufacture or output of any such article.

SEC. 3. If a corporation or a company, firm or association shall be found guilty of a violation of this act, it shall be punished by a fine of not less than one per cent of the capital stock of such corporation or amount invested in such company, firm or association, and not to exceed twenty per cent of such capital stock or amount invested. Any president, manager, director or other officer or agent or receiver of any corporation, company, firm or association, or any individual, found guilty of a violation of the first section of this act, shall be punished by a fine of not less than five hundred dollars nor to exceed five thousand dollars, and in addition thereto may be imprisoned in the county jail not to exceed one year.

SEC. 4. Any contract or agreement in violation of any provision of the preceding sections of this act shall be absolutely void.

SEC. 5. Any purchaser of any article or commodity from any individual, company or corporation transacting business contrary to any provision of the preceding sections of this act, shall not be liable for the price or payment of such article or commodity, and may plead this act as a defense to any such suit for such price or payment.

SEC. 6. Any corporation created or organized by or under the laws of this state which shall violate any provision of the preceding sections of this act shall thereby forfeit its corporate right and franchises, and its corporate existence shall thereupon cease and determine; and it shall be the duty of the secretary of state, after the passage of this act, to address to the president, secretary or treasurer of each incorporated company doing business in this state, a letter of inquiry as to whether the said corporation had merged all or any part of its business interests in or with any trust, combination or association of persons or stockholders as named in the preceding provisions of this act, and to require an answer under oath, of the president, secretary or treasurer, or any director of said company; a form of affidavit prescribed by the secretary of state shall be enclosed in said letter of inquiry; and on refusal to make oath in answer to said inquiry, the secretary of state shall immediately revoke the charter of said company, and make publication of such revocation in four newspapers of general circulation in the four largest cities of the state.

SEC. 7. It shall be the duty of the secretary of state, upon satisfactory evidence that any company or association of persons duly incorporated and operating under the laws of this state have entered into any trust, combination or association as provided in the preceding provisions of this act, to give notice to such corporation, that unless they withdraw from and sever all business connection with said trust, combination or association, their charter will be revoked at the expiration of thirty days from date of such notice.

SEC. 8. It shall be the duty of the prosecuting attorneys in their respective jurisdictions, and the attorney-general, to enforce the foregoing provisions of this act, and any prosecuting attorney, or the attorney-general, securing a conviction under the provisions of this act, shall be entitled, in addition to such fee or salary as by law he is allowed for such prosecution, to one fifth of the fine recovered. When the attorney-general and prosecuting attorney act in conjunction in the prosecution of any case, under the provisions of this act, they shall be entitled to one fourth of the fine recovered, which they shall divide equally between them, where there is no agreement to the contrary.

SECRETARY WINDOM's solution of the silver problem proposed in the annual report of the treasury department is attracting a great deal of attention and finds strong opponents and warm advocates. The final and satisfactory solution of the silver problem is to be found in an international agreement fixing a ratio between silver and gold, and the free coinage of both metals in the mints of all the leading nations of the world. But some of the leading nations are not ready yet for this concerted action, and thus each one is left to work at the problem in its own way. As the best solution of the problem for this country under existing conditions, Secretary Windom recommends to Congress the following measure:

Issue treasury notes against deposits of silver bullion at the market price of silver when deposited, payable on demand in such quantities as will equal in value, at the date of presentation, the number of dollars expressed on the face of the note at the market price of silver, or in gold,

at the option of the government; or in silver dollars, at the option of the holder.

The problem is to utilize both gold and silver as money, and keep both in circulation on the same basis; and the secretary has proposed a bold and novel way of solving it. Whatever may be said about the financial wisdom of the plan, it has about it the clear, honest ring of genuine coin. It means dollar for dollar. It is no scheme for paying a debt of one dollar with seventy-five cents. Financial legislation that results in making a man pay a dollar to settle a debt of seventy-five cents for the dollar due him is also wrong. Both are wrong, and one does not right the other, although some of the extremists advocating the unlimited free coinage of silver at its present ratio to gold seem to think so.

For money, the majority of our people want both gold and silver. They do not care to handle the coin itself. They prefer to handle the gold and silver certificates that represent the coin. For every dollar of silver coin now in circulation there are nearly five dollars in silver certificates, and the people want an honest dollar. They don't want a dear dollar or a cheap dollar. Since the people prefer to use the gold and silver certificates instead of the coin itself, the United States treasury is practically a great bank of deposit. There are over \$277,000,000 of silver deposited there, that are represented in circulation by silver certificates. It is the opinion of the secretary that it would be better to store up silver bullion instead of silver coin in the vaults. The silver question will be before Congress, and his measure will be thoroughly discussed.

POTASH, phosphoric acid and nitrogen are the three principal fertilizing elements, and of these the costliest is nitrogen. This is not on account of scarcity, for there is an abundant supply of it; four fifths in weight of the air are nitrogen, and many thousand tons of it rest on every acre. It is costly because it is not well known how to make use of atmospheric nitrogen as plant food. This is one of the important problems now before the chemist and the farmer. The Storrs experiment station, of Connecticut, recently issued a bulletin giving an account of some interesting experiments made to find out whether growing plants can make any use of the free nitrogen of the air. Plants of different kinds were grown in jars of clean, pure sand. They were watered with nutritive solutions containing known amounts of nitrogen. A comparison between the quantity of nitrogen added and the quantity found by analyses in the soil and in the plants at the end of their period of growth, showed the gain or loss of nitrogen. It was found that some plants contained more nitrogen than had been added in the nutritive solutions, while others contained no more, or even less. The only source of gain was from the atmosphere. From a large number of experiments it was concluded that peas, clover, and, probably, all other leguminous plants, are able to acquire large quantities of free nitrogen from the air during their period of growth.

Oats, barley and other cereals did not manifest this power of acquiring nitrogen from the air. This explains why the latter are exhaustive and the former renovating crops. Prof. Atwater gives the following as the practical inferences from the experiments: The ability of legumes to gather nitrogen from the air helps to explain the usefulness of clover, alfalfa, peas, beans, vetches and cow-peas as renovating crops, and enforces the importance of using these crops to restore fertility to exhausted soils. The judicious use of mineral fertilizers (containing phosphoric acid, potash and lime) will enable the farmer to grow crops of legumes, which, after being fed to his stock, will, with proper care to collect and preserve all manure, both liquid and solid, enable him to return a "complete fertilizer" in the shape of barn-yard manure to his land. A further advantage of growing these crops is that the nitrogenous material, protein, which they contain in such great abundance, is especially valuable for fodder.

SUCCESS in any co-operative movement among farmers for the purpose of buying their supplies of seed, depends nearly altogether on whether the cash or credit system is followed. The organization of farmers in Michigan, mentioned in former issues, adopted the spot cash plan, and to this can safely be attributed its success. It accomplishes much by doing away with the surplus of middlemen, but it does more by following the strict cash system. It is the keystone of the organization. But this particular organization has no monopoly of the plan. It can be adopted by any farmers' club or neighborhood association. There is a cash market for farm products, and farmers should buy for cash. It is to the mutual advantage of the honest buyer and seller. The buyer gets more goods for his money, and the merchant runs no risk, and does not try to collect his bad debts from his paying customers. It is the "dead beat" that gets left when the pay-as-you-go plan is strictly followed. Cash enforces honesty.

IN the annual report of the secretary of the treasury is a table giving the amount of money of all kinds in circulation each year from 1878 to 1889. In 1878 the total amount was \$805,793,807; in 1889 it was \$1,405,018,000; a net increase of \$599,224,193. This is an increase in the circulation per capita of about five dollars. This simple statement of facts completely upsets all the voluminous arguments on the money question, founded on the contraction of the currency alleged to have taken place in the period of time covered by the table.

THE growing strength of the farmers' defensive movement is evidenced by the large increase in the membership of their organizations within the past three years. It is estimated that over one million out of four and one half million farmers in this country are now enrolled in the various organizations. Since the main object of the separate organizations are the same, earnest efforts are now being made to unite them all under one national head.

FARM AND FIRESIDE.

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Our Farm.

AGRICULTURAL CHEMISTRY

From the Standpoint of the Practical Farmer

BY JOSEPH (TUSCO GREINER).

No. 24.

KAINIT.—Well, what do the authorities say about this salt and its power over ammonia? The late Prof. Geo. H. Cook, who, as director of the New York Experiment Station, has paid much attention to the subject of fertilizing materials, wrote me that experiments were being made at the station to settle the disputed question as to the comparative values of kainit and other potash salts, but declined to express a decided opinion concerning the power of kainit over ammonia.

Next, I asked G. C. Caldwell, professor of agriculture and analytical chemistry, at Cornell University, of this state. In a letter dated July 19, 1889, he writes: "Some experiments have been reported indicating that kainit is very much better than plaster for fixing ammonia, but no explanation of the difference was given. Whatever fixation takes place is, in all probability, effected in the way mentioned by you; namely, by interchange of acids, yielding the sulphate of ammonia so much less volatile than the carbonate. I know of no reasonable way of explaining it. As to the better result which may be claimed sometimes for kainit as compared with the muriate, it may be due to the reason suggested (its chemical action upon plant foods already present in the soil in insoluble combinations); but it remains to be seen how far such a claim is based on careful comparative experiments. Kainit costs more than plaster. I do not think it is yet proved that for equal amount of money invested, as much if not more fixing power for ammonia would not be secured in plaster as in kainit. If only as much, and no more, then I should invest in kainit, since it contains a certain amount of potash, which plaster does not."

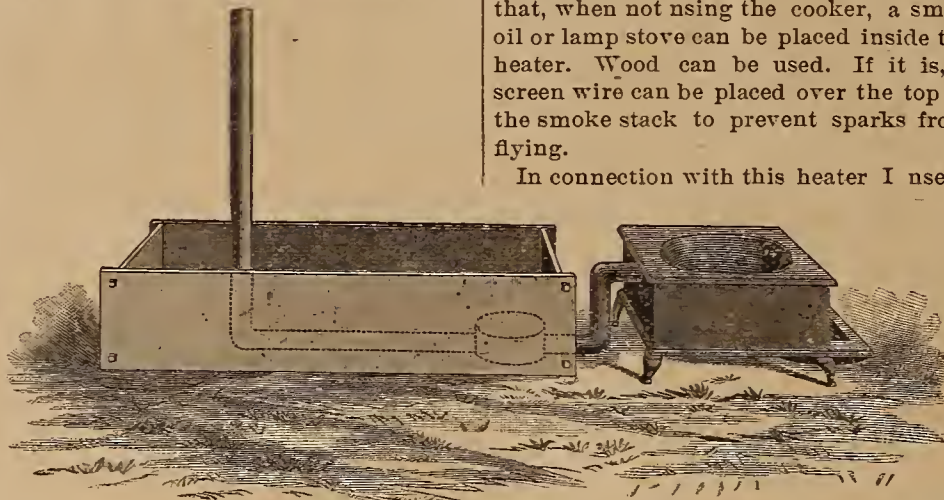
This is very good as far as it goes, but it did not fully satisfy my inquisitiveness, and I asked Prof. C. A. Goessmann, director of the Massachusetts State Agricultural Experiment Station, an eminent chemist. August 7th, 1889, he wrote me as follows: "Kainit contains common salt, gypsum, chloride of potassium and sulphate of potash, besides chloride of magnesium. Its compound character is apt to supply known as well as unknown wants of the plants raised by its aid. It is a superior absorber of ammonia, as compared with gypsum; it diffuses potash and phosphoric acid, and renders them

more accessible to all kinds of plants, rooting at different depths; it increases the water-retaining quality of the soil. Its large percentage of common salt renders its use in some cases objectionable, but for grass lands and forage crops in general, its application deserves high recommendation. For most garden crops, where stems, leaves and roots are to be used, muriate of potash is safer. For fruits (and sugar and starch-containing plants), carbonate and sulphate of potash are safer potash resources."

One important quality of kainit, however, has not yet been touched upon; namely, its power of absorbing nitrogen from the air. Mr. J. J. H. Gregory, in his excellent little pamphlet on "Fertilizers," tells of some experiments made in this direction with several heaps of barn dung which were kept for a year. "In one of these, to which had been added 0.5 per cent of carbonate of lime, there was a loss of 9.78 per cent of the nitrogen. Where 1 per cent of plaster had been mixed with a heap, there was a loss of but 0.34 per cent; where 1 per cent of sulphate of magnesia had been mixed, the heap was enriched with 5.46 per cent of nitrogen; while one per cent of kainit added 7.97 per cent, which must have come from the air."

Prof. Dabney says, "Lime promotes the action of kainit to a very marked degree; kainit is, by itself, frequently a proper application to swamp lands and new lands, being, also, a powerful digestive agent."

Here we have an abstract of nearly all the information that is available up to this day on the subject of kainit. The vast importance of the matter must have become plain to the thoughtful reader, and he will not wonder why I have devoted so much space and study to it. Now, after this consultation with chemists and



TANK HEATER.

agricultural experimenters, it is only left for us to inquire what farmers think of it who have used it largely and observed its effects on the soil.

In practice it has been found that kainit has a most favorable effect upon all lands abounding in vegetable matter, as newly-cleared lands, reclaimed swamps, etc. Here, probably, the kainit not only furnishes plant food to the soil directly (in its potash), but also through its sulphates, and other secondary salts aid in rendering insoluble plant foods in the soil soluble. A good share of the sandy soils of New Jersey is deficient in potash, and here kainit is used quite largely by good cultivators. I have known instances of 1,000 pounds per acre being used with good results for potatoes—of course in combination with some phosphatic fertilizer, usually bone meal. In the same combination it has frequently given excellent results on small fruits. For orchards, especially peach trees, it often proves a veritable panacea and the diseases of the peach sometimes yield to its application as if by magic.

To sum up, I would say that kainit, as a source of potash, is worth just about its cost; but it gives us so many other advantages besides, that it cannot be doubted that we have in it one of the most valuable manures, and, indeed, worth more than its current price. Every farmer should try its virtues, especially for orchards and meadows, reclaimed muck lands, etc.

On the other hand, we should not forget that kainit only furnishes potash, and not a particle of other plant nutriment directly,

and that it helps to rob the land of these plant foods; so that in some respects its effect is like that of lime and plaster. Without simultaneous applications of other manures it may "make the father rich and the children poor." But for the purpose of keeping up the soil fertility in general farming, the potash may be supplied by kainit; the phosphoric acid in some cheap form of phosphate, like floats, dissolved bone, basic slag, bone dust, etc., and the nitrogen by means of rotation with clover, plowing under black peas or other green crops, and all this supplemented by what yard manure and similar sources of plant food may be available on the place. For leguminous plants, beans, peas, clovers, etc., the mineral manures are often all that are needed, no nitrogen being required. In such case we could not well find anything more suitable, and cheaper at the same time, than kainit with some cheap phosphate.

The best results from kainit (and of most other German potash salts) are usually obtained by applying in the fall or winter, and for some crops (potatoes, for instance), still better the year previous. The chlorides in kainit are quite abundant, and should be given a chance to be washed out of the soil, as otherwise they are often injurious.

TANK HEATER.

I send you a rough sketch of a tank heater which I used all last winter and found to be a good thing. A tinner made me a heater of galvanized iron, ten inches deep and eighteen inches in diameter, with pipes as shown in the illustration. The short pipe is just long enough to pass through the end of the tank. The hole for the pipe to pass through should be cut flaring, so that the pipe can be packed with tarred rope. The short pipe should be eight inches or more in diameter so that, when not using the cooker, a small oil or lamp stove can be placed inside the heater. Wood can be used. If it is, a screen wire can be placed over the top of the smoke stack to prevent sparks from flying.

In connection with this heater I use a

feed-kettle, doing my cooking and heating the stock water at the same time. This heater works to perfection, and I send this description of it for the benefit of others.

ALEX. WILDER.

Iowa.

IRRIGATION.

There seems to be an antipathy against irrigation. Is this right? I think not. Sonoma county, California, of all the counties in the state, is the one giving the most certain field and orchard crops without irrigation, and as certain as any region in the world. We have sufficient moisture for the crops, and we have a climate without frosts, storms or floods in the growing season. Yet, were I a young man, in search of a farm on which I could make the most money with the least hard work, and knowing as much of the country as I do now, I would certainly give very much more for a farm with a handy, abundant water supply, sufficient to irrigate every foot of it, than for one equally as good otherwise on which water could not be brought either for field crops or any kind of fruits. And I should very much prefer to have that water from a great, open, storage reservoir than from a flowing stream or well.

The reasons are founded on careful observations, both here and in the East, and I do not stand alone in this preference. The brightest minds East and West, that have given the subject practical study, hold to the same doctrine—irrigation makes full crops absolutely certain every year. East, even in regions of the greatest rainfall, proper irrigation, which means

irrigation combined with under-drainage, means full crops nearly every year. There are seasons everywhere East in which it is not possible to grow full crops, on account of frosts and storms—but with water for irrigation stored up, the season drouths and great heat would give the greatest crops. Every portion of the Pacific coast where the soil is good, can be made to produce certain crops of all kinds every year.

Nevada is, we will say, the most dreary, desolate, arid state or territory in the Union. It has millions of acres, which would lay forever desolate and act as a curse to the rest of the continent, but which can all be redeemed and made support a dense population in security by the use of water—of course I mean the portions of it that are plowable and not bare rocks. Nevada, with its plains all "under water," with its own natural mountain water stored up in large reservoirs, properly distributed over her rich plains, would support a more dense population in safety than Iowa and Missouri combined, without irrigation.

It has been estimated by those best informed that water enough for all the arable land for the whole state of Nevada could be stored up, and the main distributing canals dug, at a cost of \$2 to \$2.50 per acre for the land benefited. The same is true of the other arid states and territories.

The grandest thing that could happen for the North American continent would be for this grand young republic to go on in the way she has started, and give this and future generations the millions of nearly perfect homes that a great system of water storage and distribution would create. It might be made to pay the government big as a business venture, for every foot of good land in this vast arid region is, to-day, without water, practically valueless. With water properly stored and distributed, it is worth certainly as much—I should say much more, for the climate is immeasurably better—as the best farm lands of Iowa and Illinois, or say \$40 to \$60 an acre.

I could go on and fill many numbers of this journal with its advantages here in Sonoma county, or in Illinois, where I studied and practiced agriculture and horticulture for fifty years, and put up and used a plant for irrigating small fruits and vegetables, where I had to pump the precious fluid one hundred and fourteen feet by wind power, and found it to pay well. Here, and in all the western arid region, if we could have thorough co-operation, as government works, we would not need to dig or pump; our mountains would give us all the water we would need and many times more, flowing where we willed by gravitation.

The mountains surrounding the great, arid, rich San Joaquin valley would give the whole valley, in ordinary winters, water enough to cover it six feet deep over every foot of it, or water enough in one season, if all was stored up, to give it six full crops if not one drop of water was condensed on those mountains during the six years; that is, if it is economically used by bringing it to the land in pipes and used as sub-irrigation.

Men who have studied the irrigation problem carefully from the standpoint of general irrigation for a whole state or territory by the state or general government, say, as above, the whole cost for storage reservoirs and distributing canals should not exceed in cost more than from one to twenty dollars per acre to the land benefited. The average for the whole arid region having been guessed at by experts as two dollars per acre.

The plains of these arid regions are, as a rule, very level and nearly bare of growths of any kind, and for the most part ready for the plow and crops as soon as moistened. Then, if the above estimates are right, we have for the first cost of irrigation about what the settler in Illinois had to pay for breaking up the prairie sod, and then, often he had to wait a year before he could get a crop. Bringing water to the land will not cost more than one fourth as much as it cost to clear the brush and timber lands of Ohio, Indiana, Michigan and Wisconsin, and about one tenth as much as it does to clear the brush lands

In this county, and about one twentieth as much as it does the timber lands in western Oregon and Washington. The minor distributing ditches in arid regions costs almost the same in labor as fences, and are much more permanent.

Utah has perhaps the best irrigation system, or, one gotten up nearly in the right line of a co-operative system; that is, one built under the care of the governing power by the co-operative labor of the land to be benefited, and the statistics of the finished works agree pretty nearly with the above estimates. So we see that instead of irrigation being expensive, it is really cheap.

D. B. WIER.

WHAT HAVE SHEEP RAISERS LEARNED BY THE CRISIS?

There has been a dreadful depression to American wool growing during the last four years. The first inquiry that comes up is, What was the matter with our sheep industry? No one can claim more than that wool was below the cost of production. Right along with this was the fear that it would never be better. Wool growing—our American sheep husbandry—got into politics, and seemed likely to be ruined. This scared us. Besides, there were not lacking politicians who stampeded the sheep raisers into disgust and despondency, and thousands of the sheep raisers went out of the business and millions of sheep went out of existence. There was no wholesale slaughter as in 1866-7; but they went to the block or died of neglect, dogs, parasites and diseases. Especially was this latter the case with strictly wool bearing flocks.

It is a notable fact that only wool growing was depressed. It was a peculiar situation, quite unlike any former paucity in the history of American sheep raising. It was wool that was low. Mutton was in great demand. This, too, while beef was as low as it has ever been. Mutton has sold for more per pound than beef has. This has saved the sheep from the boiling pots; and more than that, has let sheepmen get rid of their flocks at good prices. Not only in the agricultural states, where land was high and where wool could not be produced at a profit, but also in the far West. It was not heretofore suspected that mutton sheep could be brought from the Pacific coast to the grain growing states to be fed profitably. More than this, it was hardly expected that fat sheep could come from Texas and the far West and be sold in our markets as prime mutton, but they have.

Hitherto, when wool has been low, a remedy was found in improved hedd of fleeces. This was not sufficient to make wool growing pay. The cost of production, by the closest economies by some, was so reduced as to leave a margin of profit as satisfactory as in other industries.

While wool was so low in price, the best business view of the industry took cognizance of incidental profits not counted upon before.

In feeds, wheat and other straw were found useful both as food and as a factor in comfort to the sheep, as well as the making manure in the stables and yards. Other cheap feeds, as bean straw and the coarser hays, were used as an occasional feed; barley sprouts and the refuse of the various manufactures, as glucose, breweries, etc., were found profitable. Cheaper grain feeds were substituted; refuse beans, peas and bran came into more general use. In some instances ensilage has been profitably used in feeding sheep, both in breeding flocks, store sheep and fattening sheep. By these substitutes and the greater use of roots, the cost of keeping sheep has been greatly reduced from the use of corn, oats and prime hay during the winter.

The most hopeful and enduring lesson we have learned, is the value of a sheep with mutton qualities. There has been a query just how much wool and mutton we might expect from the same sheep. We do not know the limits to either of these products. It has been thought that increasing the size of the sheep had a deleterious effect upon the quantity and quality of the fleece at the same time. There is greater doubt now than formerly, and there are not lacking possible and valid reasons for the variations and failures of

the past. In increasing the size of the carcass in former experiments, the selections have been unfavorable to the quality of the fleece as well as quantity. Everything has been sacrificed to size. One thing, as intimated before, is sure: the sheep combining wool and mutton has been the paying sheep. Nor is it expected that wool shall again hold the first place in sheep raising in regions where lands are high and the cost of living expensive.

The raising of lambs for market has been found most profitable, not only in districts contiguous to city markets, but by the cheap rates of transportation they are raised hundreds of miles from the markets with entire satisfaction. Early, or hot-house lambs, have been largely raised by those who were prepared and willing to take the pains to raise and market them, and have brought extra prices in the city markets.

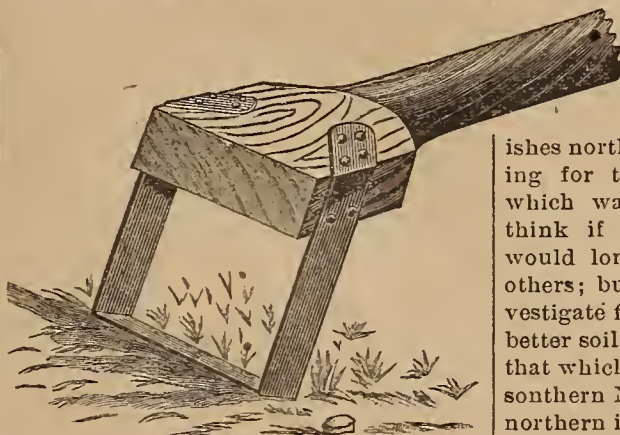
Our sheep husbandry has become thus greatly diversified. The latter economies are welcomed and the old ones are being looked into with business calculation and discretion.

The present prices of mutton justify the feeding of thousands of western and southern sheep on grain farms. The vast crops of corn, oats and hay are thus fed on the farm, adding, happily, to the fertility of the soil for future crops.

Nor are these the only lessons we have learned by the depression. We have a better understanding of our foreign wool growers, who are severe competitors in our own wool market. We know how they compete with us, and in what grades and with what probable future success. It is not a little mortifying that we are hopelessly disturbed in our own markets, but we had as well know the situation, and trust by developing our resources and Yankee genius to find legitimate means of not only holding our own, but possibly gaining advantages in the future. * * *

WEEDER.

For a convenient size, take a piece of hoop iron about sixteen inches long. Six inches from each end bend it to right angles, and two inches from each end bend again diagonally across the iron. For the handle, take a piece of basswood board four inches wide and four to six feet long and cut it down to the size of a hoe handle, except at one end, to which is attached the iron, bent as aforesaid. It should be put on with screws, as nails will work loose.



WEEDER.

Keep the middle section of the iron filed sharp and it works like a charm between drilled plants. If the cutting section is set about forty-five degrees with the handle, it will naturally run about half an inch deep, and the earth and weeds, with their roots cut off, slip back over the iron. It is to be used when the weeds are young and not when they are so large as to require chopping, as with a hoe. The side sections unfilled allows very close work to drilled plants.

The Lang weeder is improved for stand-up work by binding it to a handle four or five feet long. Bind with wire. Always save old broom heads and burn them for the wire. Wire often comes handy. The burning makes it pliable if not cooled suddenly.

S. D. NEWBRO.

Michigan.

MIDDLE ISLAND, N. Y., Nov. 27, 1889.

I received your Peerless Atlas. It is wonderfully cheap, and is worth five times the price you charge. I think everybody ought to have one.

CLIFFORD D. RANDALL.

SHEEP HUSBANDRY IN MARYLAND.

The Album of Agricultural Statistics—the popular atlas issued by the Department of Agriculture—shows on the twelfth map the average value of sheep in the United States; differences of state averages in relation to general average. The states are placed in five groups, each class distinguished by separate tints, each including a certain range of average values, and of percentages above or below the general average of \$2.21. These differences of value are due to breed, grade, feed, care, quality and quantity of fleece, value for mutton, and other local causes affecting values. In the tint representing the highest over-average class is Maryland, at \$3.28 per head, or 48.4 above the general average. The nearness to the largest cities of the Union has its effect on the price of mutton and wool, and renders sheep husbandry profitable in this state. The cost of wintering sheep here is much below the average of the New England and middle states, the climate being so much milder. Southern Maryland possesses the advantage of nearness to markets, of cheap lands, short, mild winters and unfailing water supply; and in the cow-pea and Japanese clover has superior ways of economic sheep feeding and of enriching the land. The former as a substitute for clover, value as fodder and as green manure, live weight and wool producer, and per cent of nitrogen, ranking higher than clover, while Japanese clover promises to be one of the very best sheep foods, and means of putting land rapidly in grass. But notwithstanding these advantages, sheep husbandry is very small in proportion to what it might profitably be in view of the great benefit to the soil, and the large tracts of land suitable for sheep ranches and mixed farming for sale at ten dollars an acre.

Sheep husbandry is one of the most feasible and effectual ways to improve soils poor by nature, or made so by the one crop system. The light lands of England are only kept fertile by the aid of sheep. The droppings of sheep constantly enrich land, and in a few years rich, productive pastures are made. Northern farmers will find numerous remarkable opportunities for securing homes in southern Maryland, and even if it were true that the land is worn out, it can be easily and effectually reclaimed by sheep husbandry; but there is really none of it worn out, except on the surface, and deeper plowing renews fertility, while most of the land is remarkably fertile and very productive. The low price at which it can be bought astonishes northern men, and instead of looking for the cause of the depression, which was the light of slavery, they think if the land had any value it would long ago have been taken by others; but the few who come and investigate find that there is scarcely any better soil or more beautiful country than that which lies uncultivated throughout southern Maryland, inviting and needing northern immigration to repopulate it.

Maryland.

G. I. JONES.

THE VEGETABLE GARDEN.

If the farmer was obliged to buy the vegetables used in his family through the year, he would begin to understand how much money there is in a good garden. If he could not afford to buy them, he would begin to appreciate them as he does not when he has even a limited supply, and that of inferior quality. Take that away entirely, and he would see what a great benefit is derived from a poor garden. Let him keep an account of the money paid out, if he purchases, and at the end of the year he understands, as never before, the amount of good living which the garden supplies, and he would conclude that there is more money in the garden than he had thought.

I would urge every farmer to have a garden, and a good one, for, while a poor one is better than none at all, a good one is so much better that one ought never to be satisfied with anything else. Let him make up his mind to work it at least as well as he does other portions of his farm, and he will find, if he carries out this resolution, and keeps an account of the results, that

there is no other portion of the farm which furnishes so much of the family's living, therefore none that "pays" so well. That this is the fact, every one who has a good garden will tell you. It is also a fact that those who have the best gardens appreciate them most. Poor gardens are only to be tolerated on the principle that "half a loaf is better than no loaf at all." Not only does a good garden represent greater quantity, but superior quality, for fine vegetables cannot be grown in a garden not properly cared for.—*Vick's Magazine*.

THAT LANTERN

Every farmer has, or ought to have, a good lantern. A born farmer has the interest of his stock as much in mind in the night as in the day. It is often necessary to go to the barn at midnight. Horses get sick, sometimes, though given the best of treatment, and what man wants to stop to clean and fill a lantern when he hears the agonizing groans from a valuable animal? Or, if a rap at the door discloses the presence of a messenger telling of a sick neighbor who wishes your aid, do you want to wait while the lantern globes are being polished, when your presence may be of vital importance? A dirty lantern always brings to my mind that text about the foolish virgins, and that other text, with a slight alteration: "Be ye also ready, for in the hour when ye think not ye may be called hastily," and have to wait for your lantern to be cleaned and filled.

Sometimes, it is true, whole months may elapse and the lantern not be required. If there is no probability of its being needed, see that it is in perfect order and slip a paper bag over it; fasten the bag at the top with a little rubber band. It will take but a second to remove the bag.

By all means have a regular place for the lantern, and see that it is always in its place when not in use.

The lantern burner can be scoured with bath brick and rubbed with chamois. The light will be much improved if the burner is bright. The oil should be emptied out and the lamp washed with hot soapsuds occasionally, for all kerosene has some dregs.

ELZA RENAN.

BET SUGAR.

In regard to the beet-sugar industry, experiments have been made in various parts of the United States in the growth of beets and in the analyses thereof. Many of these analyses have been made in the chemical division of the department at Washington, and show that there are many localities, especially in the northern portion of the United States and on the Pacific coast, suitable to the production of a sugar beet rich in saccharine matter. The successful experiments in beet-sugar manufacture in California have created a great deal of interest in various parts of the United States in this industry, and the department has received many inquiries for information on this point. The chemical division is now collecting material for a full report on the beet-sugar industry in the United States, which it is hoped may be published early the coming winter.—*Extracts from Report of Secretary of Agriculture*.

ANGORAS.

Once create a market for Angora fleece, and that hardy little animal will carry civilization nearer to the tops of the mountains than California gold ever did. We once owned a flock of grades in the Sierra foothills. As soon as a permanent demand has been created for their fibre they will be better property for the mountaineer than sheep. They require neither fence nor herder; they always come home at night, and when dogs or coyotes assail them they make a bee-line for the corral, the buck covering the rear and turning often to beat back the enemy. Their flesh is good mutton and their milk is free from offensive taste.—*Sheep-Breeder and Wool-Grower*.

J. A. JOHNSON, Medina, N. Y., says: "Hall's Catarrh Cure cured me." Sold by Druggists, 75c.

BRIANT, IND., Nov. 28, 1889.

I received the Peerless Atlas of the World. I must say it is a very good book for the money. I would not part with it for twice what it cost me if I could not get another one like it.

JNO. H. SWITZER.

Our Farm.

GARDEN AND FARM NOTES.

BY JOSEPH.

THE CHINCH BUG.—"The chinch bugs are getting worse every year. This year they destroyed all my Lima beans, and badly damaged cabbages and radishes. They do not eat, but suck all the substance out of the leaves. I have tried everything I could think of without finding a remedy." This cry of despair comes from one of our friends in Maryland. Unfortunately, I can give him but little aid or advice in this trouble. The bug is rather difficult to deal with. The only thing that might promise immediate relief, is to induce poultry to make the infested fields their happy hunting grounds. Place coops with broods of chickens (the old hen confined in the coop) scattering over the territory you wish to protect, and it may keep the bugs at bay. Insect-eating birds should also be encouraged. The chinch bug is subject to a contagious fungous disease, which, in years favorable to its development (wet seasons), sometimes almost annihilates the pests. This disease, as may be inferred from experiments made at the Minnesota experiment station, can be transplanted from one locality to another, by simply gathering up a number of diseased bugs in one place and sending them to another, where the disease has not yet made its appearance, and scattering them there among the healthy bugs. In wet weather the infection will soon spread and carry death among the chinch bugs. After the disease has once been introduced in a locality, it may be depended upon to take care of these insects to such a degree that serious damage to the crops need not any more be feared. If the bugs in our friend's section have never been affected with this disease, I would advise him, and his neighbors and the whole section, to look around for a number of diseased specimens for seed. Perhaps the Minnesota experiment station (St. Anthony's Park, Ramsey county, Minnesota) could help him out, or tell him where the fungous seed might be obtained. The object is worth taking a little pains, or even going to some expense.

MELONS FOR EXHIBIT.—How to grow large specimens of melons for exhibition purposes, is what some of my friends would like to know. There is absolutely no secret about it. In the first place, have healthy plants and keep them growing rapidly, and without the least check, either in transplanting, from sudden exposure or by insect attacks. This latter is an important point. Plants, nibbled and gnawed and sucked out by bugs until they have been hanging between life and death for weeks, and only mauaged to escape with a weakened constitution, cannot be expected to yield fine specimens or a large crop. I should hardly have to mention that the soil must be very rich in accumulated plant food. A large application of manure to impoverished soil will not do. Soil and location should also be warm, and the best of cultivation be given. Applications of washing suds during a long dry spell, should such occur, will be very beneficial; but such applications should be made very copiously, if at all, say a pailful or more to the hill. Watering, however, as a usual thing can be dispensed with much easier than any of the other requisites named. Indeed, hot and dry weather suits melons very well.

Now comes the chief point—the real secret, if you insist on calling it so—and this is proper thinning. If the plants set fruit freely and fully, as healthy plants should, and this fruit is all left on the vines, we could not reasonably expect the specimens to grow to excessive size; but, by taking off the most of the fruit set, leaving only a few of the most promising specimens on the vine, the whole strength of the plant is concentrated in these few fruits, and a large size of them is a sure result.

Such treatment is advisable for all smaller kinds, not only for exhibition but also for ordinary purposes. The Emerald Gem melon, for instance, this ne plus ultra of fine quality and insignificant appearance, is too inconveniently small to be appreciated in market, when grown without

thinning; and while the grower, on account of its other good qualities, might overlook this fault, he should always try to remedy it to some extent by removing one half or more of all the fruit when first set. The same is true of the smaller varieties of watermelons, although, for home use, and with fair treatment as to feeding and cultivating, we can always get them large enough to answer. If a melon is as good as my favorite, the Volga, and nine to twelve inches one way by fourteen or fifteen inches the other, I am not disposed to find fault with either quality or size. If wanted for exhibition, of course, we must add a few inches to each dimension by judicious thinning.

These rules for the production of exhibition stuff do not apply to melons alone, but are equally applicable to most other fruits, as tomatoes, peppers, egg-plants, etc., and with some modification to almost all vegetables. An onion, or a beet, or a carrot cannot come to full development and to exhibition size, if at any stage during growth it is scantily supplied with nourishment, or crowded for space. Early thinning is one of the most important points in this connection, and its neglect one of the commonest sins of omission. While plants are small, a few inches distance looks quite large, especially to the inexperienced gardener, and the plants are apt to be left two or three times as close in the rows as is good for their welfare. Then they grow rapidly, and before the gardener is aware of it, they are crowding each other, fighting for food, drink and space; the strongest after awhile get the upper hand of the weaker ones; but all suffer more or less, and remain stunted. It takes nerve to pull up nice plants, and thin to the required distance, but it has to be done and that at a very early stage of growth, or the crop must suffer.

Orchard and Small Fruits.

CONDUCTED BY SAMUEL B. GREEN.

PLUM CURCULIO.

The bulletin of the entomological department of Michigan University, by Prof. A. J. Cook, contains some valuable notes on the use of arsenic poisons for ridding our plum orchards of this pest, and gives the following conclusions: "Arsenites and carbolic acid (one pint of crude carbolic acid to fifty pounds of plaster) will protect against the plum curculio if they can be kept on the fruit or tree. But in case of very frequent rains the jarring method will not only be cheaper, but much more effective. Again, as our wild fruits are more cleared away, we must have plums in our orchards to protect our apples from the curculio. When apples are seriously stung, they become so gnarled and deformed as to be worthless. It will pay, then, to set plum trees near or among our apple trees. Then we will escape mischief among our apples from the curculio, and will only need to spray our apples once to destroy the codling moth, and can treat the plum trees three or four times with Paris green or carbolic lime, in case we have only occasional showers, or can jar the trees when the rains are very frequent. For apples we use London purple, one pound to two hundred gallons of water. For plums, we must use Paris green, one pound to two or three hundred gallons of water. If carbolic plaster is preferred, we use one pint of crude carbolic acid to fifty pounds of land plaster. This is freely thrown over the trees so as to strike every plum on the tree which is being treated." It also adds that the trees should not be syringed until the blossoms fall, as by so doing many bees may be destroyed. There is no reason for spraying until they have fallen, as neither the curculio or codling larvæ commence their attack until after this time. Many bee keepers have been ruined by their neighbors syringing their trees before the blossoms have fallen. The report says there is more liability of injury to the foliage from London purple than from Paris green, and that white arsenic is still more injurious. Plum foliage is liable to injury even from very dilute mixtures of London purple. As for the chances of injury to stock from the spraying mixtures falling on the grass, the author concludes, after some very careful experiments on animals, that when

these poisons are properly used, there is no danger to stock that may be pastured in the orchard; nor is there any chance of the fruit being made poisonous.

Saunders' "Insects Injurious to Fruits" gives the following description of the plum curculio: It is a small, rough, grayish or blackish beetle, about one fifth of an inch long (shown, magnified, in the illustration), with a black, shining hump on the middle of each wing-case, and behind this a more or less distinct band of a dull, ochre-yellow color, with some whitish marks about the middle; the snout is rather short.

PEACH ROT AND BLIGHT.

Erwin F. Smith contributes an interesting article on this subject in the recent issue of the *Journal of Mycology*. He says that this disease is what has frequently caused immense losses to the peach growers of the country. It attacks sometimes the blossoms and wood as well as the fruit, if the season is favorable for its development. It has sometimes destroyed an entire crop in a very few days. Sometimes the fruit is destroyed while on the way to market, and rots in the middlemen's hands. He points out that it is not necessary to bruise the fruit to give the disease entrance, but that it may itself puncture the skin of a healthy peach during moist, warm weather, when it is most active. This fungous growth, or disease, as it is commonly called, is distributed from peach to peach by means of its spores or seeds, which are scattered in great abundance. These spores (seeds) pass through the winter in a manner similar to the rot of the grape; that is, in the decayed or rather, dried-up fruit of the peach. But he also finds that the same fungous attacks and causes rot in apples, plums and cherries. He thinks that by destroying all the rotten peaches and other fruits, a great deal will have been done to stop its ravages, especially if this is carried on carefully for several years. To be successful, growers should unite in this destruction of decayed or dried-up fruits, and none should be left on the ground or on the trees. In order to destroy them effectually, they must be buried or burned. Simply piling them up is of no avail. He says when this disease has attacked the blossoms and destroyed them, many other causes have been looked to for a solution of what was a mystery, such as lack of pollenization, etc.

FIG CULTURE IN GEORGIA.

I believe this, the southern part of Georgia, to be the home of the fig. I have three kinds: The sugar fig, which is small but very sweet and prolific; the purple, which is of medium size, and the large yellow, or Turkish fig, which I think the finest and most productive of any known. It is a constant bearer from early spring until the young fruit is killed by frost. The fruit is very large, and of excellent quality. I have four-year-old trees which produced, this year, from six to eight bushels each. I find them profitable at five cents per dozen. They come best from cuttings, from ten to twelve inches long, put out in January on well drained soil, with compost and hard-wood ashes for fertilizer.

H. GIGUILLAT.

Glynn county, Ga.

INQUIRIES ANSWERED

BY SAMUEL B. GREEN.

Monthly Strawberry.—S. G., Charleston, Mo. The Mexican Everbearing once attracted much attention, as it was largely advertised. But, upon actual trial, it was found to be the old monthly red Alpine variety, of Europe. The monthly Alpine varieties produce fruit throughout the summer, and are valuable to have in the garden in a small way, but have not been cultivated for profit, so far as I am aware of, in this country. They are small, but very sweet. They are larger if grown from seed than if grown from runners.

Varieties of Apples.—R. F. M., Green Ridge, Mo. The Limber-twig and Willow-twig are not the same, though in tree and fruit they resemble each other. The stem of Limber-twig is quite long, and is inserted in a broad, deep cavity, while that of the Willow-twig has a short, rather slender stem inserted, in a narrow cavity that is sometimes partially closed with a lip. The flesh of Limber-twig is very white, while that of Willow-twig is of a yellowish-green color. The Missouri Pippin is not the

same as Rome Beauty. It is a late keeper, while the latter is in season from October to December. The Rome Beauty has a large core, and is quite conical, while the Missouri Pippin is nearly round, or somewhat flattened, and has a small core. There are other important differences.

Propagating the Snowball.—R. J., Cartersville, Mo. By snowball I take it you mean the common kind (*viburnum opulent*) and not *viburnum plicatum*. The common snowball roots readily from cuttings of the new wood, taken off in the fall after the leaves have fallen. These should be made about seven inches long, and should be wintered over packed closely in sand in a well-drained frame. The lower cut should come just below a bud. In the spring, plant out in good, light, well-drained soil, and be sure to firm the soil well around the base of the cuttings. Another way is, take off cuttings of the newly formed wood in July. Leave on a part of the leaves, place the cuttings in well-drained, coarse sand, in a box or frame, and water often enough to prevent drying out, and give all the sunlight they will stand without wilting. In this way they may be easily rooted. Plant out in a frame or bed as soon as rooted, and care for them constantly until well started.

Seedling Plums.—J. W. B., Arlington, Dakota. Your seedling plum sprouts do not need to be budded, but will produce plums just like the tree they sprung from. In the article you refer to I stated that the sprouts from a plum tree root should be budded, and such is the case almost always, since but few people grow their plums from seed or from sprouts. Most plums are grafted or budded on seedling roots, so, of course, the fruit from them will not, probably, be as good as that from the scion. Although since all fruits come from seed, it is possible they may be as good, or even better. The plums grown in the eastern and middle states are generally from the European plum (*prunus domestica*) which does not produce many suckers, and is propagated by budding and grafting. While the wild plum of Dakota and Minnesota (*prunus americana*) suckers very freely, and may be so propagated, always remember in the case of fruits, that any portion of a tree or plant which is entirely on its own roots will produce like the original when it sends out suckers and buds. It is very seldom that a nursery concern sends out plum trees that are not budded or grafted.

Mulching Fruits.—A. H., Silver City, N. M. The object in mulching strawberries in the winter is to keep them frozen and not have them subjected to alternate freezing and thawing, which throws them out of the soil. This is best accomplished by covering the bed, after it is frozen hard, with a light covering of hay, straw, a coarse manure, evergreen boughs or leaves, so deep that the plants will be covered entirely, but not heavily enough to press the leaves to the ground. Do not use hay or manure that has seed in it, or rye or wheat straw with any grain in it, for in such a case they will grow and make trouble. In the spring the mulch should not be removed, but should be drawn away from over the plants to permit them to come through. The mulch will then prevent the rains spattering the dirt onto the berries. If you wish to mulch to keep the soil moist, put on a large amount of mulch and work it in among the plants. In mulching trees or berry bushes, it will be found advisable to have it as fine as possible. Forest leaves make an excellent mulch but are hard to keep in place where it is windy. Evergreen boughs are also very good, for they do not lie too close on the plants. Meadow hay is good if free from seeds. If a windy place, a few old poles will keep it in place.

Best Fertilizer for the Orchard.—C. C. L., Old Fort, N. C., writes: "Next spring I intend to plant a block in apple tree grafts, principally on a piece of land that has been too wet to grow anything but swamp willows and weeds. I am draining it by a good ditch, three feet deep. The land is very rich except on the edge, where corn has been cultivated for over sixty years almost exclusively. What manure or fertilizer would be best to use to cause the trees to make a fine growth and even up nicely in size? I had thought of using some kind of bone phosphate or hen manure. A good portion of the plot will, of course, be somewhat sour, but contains enough sand to pulverize well after getting dry enough to be worked. The balance of the land of the same character I intend to use for a garden, and I think I can make a very good one of it."

REPLY.—I recommend that you use bone superphosphate and some potash salt, or else wood ashes. In all probability, nitrogenous manures, such as that from hens or the stable, it would not be well to use, for they naturally help to produce a succulent growth, and such land as you mention is apt to have too great a tendency in that direction any way. Apply the fertilizers in the rows in this way: Mark out the land where the rows are to come and then sow the fertilizer in a narrow strip along the marks and cultivate into the soil. Then plant out your grafts. I prefer this method for planting out grafts. In transplanting nursery trees, I furrow out with a plow, sow my fertilizer in the furrow and then set a common cultivator close together and with it work the fertilizer into the row. I have also used fertilizers broadcast, but prefer this method for anything in rows that are three feet apart.

Shortland affords the best opening for young people. Learn it by mail or personally of W. G. Chaffee, Oswego, N. Y., who secures positions for all his pupils when competent.

EXTRACTS FROM CORRESPONDENCE.

FROM ILLINOIS.—Williamson county is in the southern part of the state, fifty miles north of Cairo, 100 miles south of St. Louis. Marion is the county-seat. The western part of the county is mostly prairie; the eastern, timber and some broken land. We can raise all kinds of fruits and all kinds of farm products. We need more enterprising farmers than we have. Any one wishing to locate in a good country cannot find a better than southern Illinois. Improved land sells at from \$10 to \$30 per acre, wild land from \$2 to \$5 per acre. L. F. Creal Springs, Ill.

FROM FLORIDA.—I came here from Illinois, six years ago, and we certainly have the loveliest country in the Union. It is yet comparatively a new state, only partially settled up, and has lots of room for new settlers. We have had no frost yet this winter. All but the most tender vegetation lives unhurt by the cold all winter. Strawberries will soon begin to ripen, and will last till June. Oranges are now going to market, and will continue for two months yet. Now is the time to plant vegetables for the early northern markets. Land can be had very reasonable in this country. We have three railroads running through the county, and another one building. Also two navigable rivers. A man needs but a few acres here, as he can farm it all the year around with various crops. Ocala, Fla. E. C. S.

FROM NEW MEXICO.—We are in the foothills on the eastern side of the Rocky mountains, and of course the face of the country is somewhat broken, but very fertile. Every acre well tilled and planted to the right kind of crop will produce from \$50 to \$250 as sure as harvest time comes. All vegetables adapted to a high altitude grow to perfection, and find ready sale at a high price, as there are but few that engage in their production. To give some idea of the various productions, I will give a few items: Turnips measure from 25 to 30 inches in circumference; onions measure from 15 to 20 inches; cabbages weigh from 10 to 35 pounds each. Beets, carrots and all root crops grow to perfection. Irish potatoes are grown largely for market, and retail at from one to two cents per pound. The water in the mountains is as fine as can be found in North America. Fish and game of various kinds abound. Many invalids resort to the celebrated Hot Springs and mountains, and are relieved and cured. The country is sparsely settled, and there is yet some government land open for settlement and other lands for sale to settlers. Fine pine, spruce and other timber is plentiful, and lumber is cheap. Rociada, New Mexico. S. L. B.

FROM KANSAS.—Rush county is situated near the center of the state, and is settled with the best class of citizens. It has excellent soil, good society, good schools, fine churches, good water, a healthful climate and a prosperous and contented people. We had two years of short crops, and the previous good crops had boomed this county to its highest notch, and our farmers ran headlong in debt, mostly for machinery, which caused hard times. This year farmers have raised plenty of corn, oats, wheat, potatoes, etc., and the people feel all right again. Statistics show that our county produced over one million bushels of wheat, price ranging from 50 to 58 cents. Corn is 20 cents; oats, 20; potatoes, 50; pork, 4; and beef, 2 cents on foot. We pay from \$5.50 to \$7.00 per ton for coal. Horses are cheap. Land is cheap at present, but will not be cheap long. There is no government land to take. My advice to young men who have a little means to put to use is to come West and invest it in a home on the western prairies. Land is bound to increase. I came here five years ago with nothing but clothes in my trunk, and now my half section is worth \$3,000—not much to crow over, but can say it is a good home. We generally have nice weather up till Christmas. Our farmers are talking of starting a Farmers' Alliance here, and I hope it will be made a success. It seems to me that the farmers are the hardest class of people to get united. W. E. Y. McCracken, Kan.

FROM PENNSYLVANIA.—Westmoreland is one of the western counties of Pennsylvania. It is a very large county. It is bounded on the north by the Conemaugh river, the river of which so much has been written during the past six months. Many of our little towns along this river suffered greatly from the May flood which destroyed Johnstown. Among these towns might be mentioned New Florence, Bolivar, Bairdstown, Livermore and others. More than four hundred and fifty dead bodies were found on the Westmoreland shore, after the great flood. The bridge between Blairsville and Bairdstown is a one-span, iron bridge nearly 300 feet wide. The Chestnut Ridge and Laurel Hill mountains pass through this county. Many stone quarries have been opened on the former ridge. The stones from these quarries are shipped to many of our large towns and cities, to be used in making streets. The blockmakers in these quarries make from \$5 to \$6 per day. A few deer and

wild turkeys are still found on these ridges. This is one of the richest counties in the state; it is noted for its fine horses, of which many are imported from England and other foreign countries. Our cattle are fine, too, but not so much attention is paid to them as to horses. Our county has hundreds of coal mines and coke ovens, and mining and the burning of coke forms an industry which employs thousands of men and boys. Gas has been discovered in nearly every part of this great county, and but few of our towns of any importance are without the use of gas for fuel and light; stationary engines all over the county use gas for fuel. Many glass and steel plants are springing up all along the lines of our railroads, which employ many men, boys and girls. Our land, in some places, is heavy limestone clay, which produces well of the grains, such as wheat, oats, corn, rye and buckwheat. Our markets are good, there being a demand for all kinds of farm produce. The crop of fruit this year was not as good as usual, but we have all we need for present use. Our native-born citizens are kind, generous and education-loving people. Our schools are good, and are under the supervision of a county superintendent who has the welfare of our young people at heart. We have nearly five hundred schools in our county, and if children are uneducated it is the fault of the parents. Our churches are fine edifices, and are well attended. We have a class of foreigners about our coke works that give great trouble to peaceable, law-abiding citizens. Persons wanting employment can get it here without much trouble; although we have many tramps, it is their own fault. Strikes are the curse of these sections. The men want big wages, and yet when they get them they are not satisfied. The great Pennsylvania Central railroad passes through this county, carrying thousands of passengers and hundreds of tons of merchandise, mail, etc., over its lines, every day. Land is very high in price, especially about the steel and glass plants, and land owners about them have made "fortunes in a day," as the saying is. Good farming land near flourishing towns can be had for from \$50 to \$100 per acre. We have good and bad farmers. The careful farmer makes money slowly, to be sure, but he makes it and lives well, keeps his farm in good repair, and is contented; but the indolent farmer makes no money, runs in debt, lets his farm decline in value, and is eternally growling about hard times. Farms that are run by this latter class of agriculturists can be had very cheap, and these same farms can, by judicious care and the use of lime and the commercial fertilizers, together with clover, be made, in a few years, good producing farms. Capital properly invested brings in large returns. Speaking of the rapid growth of towns, we will instance one; it is Genette. Only about two years since there was only a farm house; now one of the greatest glass plants in the world is established there, having cost over seven millions of dollars, and a city has sprung up as if by magic. M. G. F. Blairsville, Pa.

FROM ARKANSAS.—D. B. W. "takes issue" with me in regard to the fertility of the soil of the Grand Prairie region. This gentleman writes from an experience of two years—from 1882 to 1884—in the south-eastern portion of the Grand Prairie country, which is not regarded as the most fertile portion. But even to the residents of that locality it must seem that D. B. W.'s unfavorable contribution is inspired by some unpleasant recollection other than nonfertility of the soil, for the settlers of the prairie regions adjacent to St. Charles and Dewitt, although from twenty to thirty miles from a railroad, and consequently unprovided with good markets for their fruit, grain and stock, are contented and prosperous, and steadily adding the improvements that must come to make any neighborhood solid and substantial. But the past five or six years have clearly shown that this country is well adapted to the raising of corn, wheat and oats. A wonderful and rapid development has been going on since D. B. W. left here, some five years ago. It is not claimed for Grand Prairie that as a corn-growing section it is equal to Illinois and Iowa; yet wherever the fields have been properly drained and well tended, the yield of corn is generous and of good quality, and the corn does not fail to "shoot the tassels" nor to mature well wherever the farmers have been sufficiently industrious to put their fields in such shape as the Illinois or Iowa farmer would think essential for a good crop. Now, as to growing cotton on this prairie, it is now well understood and has been thoroughly demonstrated, that the prairie produces as largely as the timber lands, and of as fine a quality, when the land is put in proper shape. In brief, the fertility of the soil of Grand Prairie is not now questioned, and to substantiate this we have fine fields of corn, large yields of oats, a good average of wheat of excellent quality wherever tried by farmers giving the crops a fair chance. Some of the older farms are now raising fine timothy, and it would seem impossible for clover to do better than it does here. So you will see that the farmer need not "drop corn, cotton, oats, wheat and the tame grasses from his list."

In regard to fruits and vegetables, we claim this to be as fine a fruit and truck farming

country as there is in the Union, and it is surely destined to become a veritable paradise for the truck farmer. But in this the farmer's work must be tempered with judgment. Fruits adapted to a northern climate will not often thrive here, and the horticulturist will find, if he is not willing to accept the experience of others, that he will make many failures if he attempts to adhere to northern varieties and methods. These things are evident to all practical farmers, and need not be discussed at length here.

The question of drainage is now becoming a very important one here, and is generally considered fully as necessary to successful farming as it is in the older northern states, although the prairie lands here are rather more rolling than in those portions of the northern states where tilling is used so extensively, but the rainfall is greater here. We will admit that we have some sickness here, and that it is principally caused by malaria; but the same can be said of almost any new country, and we believe a careful comparison would show not half so much sickness of that kind here as there was in Ohio, Indiana and Illinois when those states were new. Diphtheria and typhoid fever are seldom heard of here, and pneumonia is mainly found among the colored people and poor whites, and the wonder is that there are not ten times as many cases of this trouble, when one sees the cheerless, uncomfortable surroundings of a great many of these families. To be sure, here, as in all new places, many people, like D. B. W., get sick, or are afraid they will get sick, or something happens, and they seek other places where, perhaps, the climate may not be too hot for them, or other conditions too risky; however, in regard to the portion of Grand Prairie of which I wrote, I claim all that I wrote as truthful, and, if desired, I will substantiate it by reference to a score or more of the leading farmers and gardeners of this portion of Grand Prairie. R. S. G. Ulm, Ark.

FROM NORTHERN CALIFORNIA.—Shasta county is on the forty-first parallel north latitude, 150 miles north of Sacramento and 100 miles from the ocean. There is probably not a quarter section of vacant government land in California that has not been examined and rejected by intending settlers. There has been and is such a rage to get a home in this climate that where there was any chance to utilize the land it has been taken, and eastern people should be very cautious about leaving their homes to come on a wild goose chase after government land in this state. It is folly for a man with a family to attempt to make a start in this country with only \$500 in money. It might be different with an able-bodied young man, but no man with a family should attempt it. Flour is \$4.50 per barrel; sugar, 8 to 10 cents per pound; coffee, 18 to 25 cents per pound; beef, mutton and pork, 6 to 12 cents per pound; work horses, \$60 to \$100 each; cows, \$30 to \$50 each; vegetables are cheap, generally raised by a few Chinese gardeners, who supply the white population; chickens, \$4 per dozen; eggs, 20 cents per dozen; unimproved, brushy land, \$5 to \$20 per acre; improved lands are from \$10 per acre up, according to improvements; brick, \$8 per 1,000; building lumber, \$18 and \$20 for rough and \$35 per 1,000 for dressed. Orchard trees begin to bear very young. I have seen fine peaches picked from trees sixteen months old, but the first paying crop is the fourth year. It is a common thing to see other products growing between the rows of trees, but that is regarded by many good horticulturists to be detrimental to the trees. It is customary to set vines and trees on land as soon as cleared. Probably the most profitable fruits to set out are prunes and peaches of drying varieties. It costs \$500 a car to ship green fruit from here to New York City, while dried fruit can be shipped for \$180 per car, and it takes six pounds of green peaches and apricots to make one of dried. The prices for dried fruit are much better than for green fruit, when the relative risks are considered. People who wish to rent farms should come in September; with other people, one time of the year is as good as another. Nine tenths of the people in this county are white Americans from the eastern states. There are ninety schools in this county; average length of schools, eight months; average salary, \$60 per month; board, \$4 per week. We have two grades of certificates for teachers—elementary and grammar grades; the former for two years and the latter for four years. In examinations for primary grade certificates, teachers must be examined in written arithmetic, grammar and composition, spelling and defining, geography, reading, mental arithmetic, United States history, entomology, oral reading, methods of teaching, penmanship, physiology and hygiene, industrial drawing, vocal music, school law, civil government and book-keeping. A general average of eighty per cent is required for a certificate. Applicants for grammar grade certificates must be examined in the following additional branches: Physics, algebra, rhetoric, current history, physical geography and English literature, and to secure certificate must make a general average of eighty-five per cent. The religious privileges in this county are good. Here in Cottonwood the Methodists and Congregationalists have their

regular services every Sunday. This part of the country has an elevation of 500 feet above sea level and has neither snow nor fogs. As to healthfulness, Dr. John Fife, in his report on the medical topography and meteorology of this section, says: "The days of summer are warm and the sky almost cloudless. The degree of warmth at night is such that discomfort from cold is never experienced. There being no aqueous precipitation either in the form of rain or dew, is a fact of very great importance to the phthisical invalid, enabling him to spend his entire time in the open air. To this, as much as to any other fact, I attribute the great benefit derived by many persons who have sought relief here." Dr. Wm. D. Clark, of this town, says: "For catarrhal affections of every description this climate cannot be equalled. I can truthfully say that malaria can only be found along the Sacramento river bottom, or in localities where water stands, keeping the soil damp the year around. Malaria is dependent upon two conditions; namely, warmth and moisture. The land in Cottonwood valley is a red, sandy loam, well drained and therefore antagonistic to the development of this much dreaded poison. Physicians in Shasta and Tehama counties seldom have a case of asthma to treat unless it is one coming from another district. I have a record of several cases which have almost entirely recovered after a few years' residence here. The summer months are warm and dry; the winter months are mild and the change from fall to winter and from winter to spring is so gradual that the human system can very readily accustom itself to the variations in humidity. The almost entire freedom from dust here is also a great advantage to patients suffering from lung affections." M. G. Cottonwood, Cal.

HAVE you seen the 5-A Five Mile Horse Blanket? If not, why not? If you have a horse you need it.

THE CASH PRESENTS FOR TRIAL SUBSCRIBERS.

Agreeable to previous announcement, the contest for the prizes, amounting to \$500.00 cash, closed December 1st. The following are the names of those who sent the largest lists of trial subscribers and secured the prizes:

The first present, \$100.00, was sent to
WM. C. BOGART, Fremont, Nebraska.
He sent 556 trial subscribers.

The second and third presents, \$50.00 each, were sent to
EVA O. MARLETTE, Ackley, Iowa,
For 208 trial subscribers.
MRS. W. H. KELLOGG, Lawton, Mich.,
For 128 trial subscribers.

The next 4 presents, \$25.00 each, were sent to
Mrs. A. M. McMichael, Cumminsville, Ohio,
For 104 trial subscribers.
W. F. Newcomb, Brooklyn Corners, Nova Scotia,
For 104 trial subscribers.
H. H. Loth, Wapakoneta, Ohio,
For 96 trial subscribers.
Ella Jones, Wichita, Kansas,
For 88 trial subscribers.

The next 10 presents, \$10.00 each, were sent to
Bina H. Johnson, Bozeman, Montana,
For 80 trial subscribers.
Mrs. H. M. Reynolds, Kalamazoo, Michigan,
For 80 trial subscribers.
Edna L. Thompson, New Cassel, Wisconsin,
For 60 trial subscribers.
M. E. Hitchcock, Bethany, Connecticut,
For 56 trial subscribers.
Mrs. Fannie Reynolds, Linwood, Ohio,
For 48 trial subscribers.
Mrs. C. F. Chase, Waltham, Massachusetts,
For 48 trial subscribers.
Eva Collier, Marion, Kansas,
For 48 trial subscribers.
Mrs. Eliza Abbott, Hamerville, Ohio,
For 48 trial subscribers.
Bessie Longnecker, Eaton, Ohio,
For 34 trial subscribers.
Mary A. Winn, Viola, Illinois,
For 33 trial subscribers.

The following persons sent the twenty next largest clubs and \$5.00 has been sent to each:
W. L. Hiringer, Cole's Creek, Pennsylvania.
H. W. Megraill, Richmond, Ohio.
Mary Brandenburg, Wilmington, Ohio.
A. Anderson, Sturgis, Michigan.
Gardner E. Bacon, Cataract, Wisconsin.
Jno. M. Dunfield, Hartford, Kansas.
Rosina Haehl, Pana, Illinois.
Stella M. Sheets, Vinton, Iowa.
Katie Stout, Memphis, Missouri.
F. A. Dargin Russell, Chicago, Illinois.
Mrs. M. J. Patterson, Mansfield, Ohio.
Mrs. H. B. Allen, Swan, Iowa.
Gertrude Bawen, Jasper, New York.
Kittie Fitzgerald, Needham, Massachusetts.
Blanche Mings, Athens, Ohio.
Carrie Longwell, Delaware, Ohio.
Neal D. McCall, Roseburg, Oregon.
Chas. F. Shaffer, Arcadia, Indiana.
Frank Wood, Clarksburg, Pennsylvania.
Jno. Ballard, Grayling, Michigan.

Handsome and valuable premiums are still offered for clubs of 3-months' trial subscribers, at 15 cents each. Always read our premium offers and notice the liberal terms. It is very easy to get up a club of trial subscribers, at only 15 cents each.

Our Fireside.

MEETING.

FROM THE SPANISH.

Many years have floated by
Since we parted, she and I.
Now together here we stand,
Eye to eye and hand to hand.

I can hear her trembling sighs,
See the sweetness in her eyes.
Silently I hold and press
Her soft hand with tenderness.

Silence, who shall fathom thee?
Who reveal the mystery
Hidden between loving eyes,
Burning hands, and answering sighs?

—Harper's Magazine

A CHILD OF NATURE.

BY JEANNETTE H. WALWORTH,

Author of "Southern Silhouettes," "True to Herself," "The Silent Witness," "A Strange Pilgrimage," Etc., Etc.

CHAPTER XI.
A POTENT PLEA.

HE hill-slopes were aflame with gorgeous autumn tints; the huckleberry fields were white with their ripened offerings; the blue of the summer skies was waxing pale and gray; the few town tourists, who had penetrated as far as the rocky hill upon which the Uphams had chosen their temporary home, for no better reason than that its absolute isolation from neighbors had recommended it strongly to Una's highly-excited nerves, had long since ceased to annoy them by "stopping in to rest," or to ask the way, or to offer to purchase the hospitality which the Uphams would have thought it a crime to sell. It was growing "really dreary" up there in the mountains, and Mrs. Upham had asked Mr. Upham more than once in tones of greater or less asperity, "how long she was expected to perch like a bald-headed eagle on that rocky fastness?"

"Until Una expresses a desire to leave it," Mr. Upham would say sternly, in response. "You came well-nigh killing her in town, and now that I have asserted myself for once, I mean it shall be for all time. For Una's sake, here I stay if it be until doomsday."

"I can't see," said Mrs. Upham bitterly, when the subject of their removal came up again, "that your experiment has proved a shining success, so far. I never saw her looking worse."

"She don't look any too well," said the old farmer, sighing profoundly.

He had just come in from making the rounds of his sterile little farm, and his soul was full of the harsh contrast it presented to the broad expanse of the fertile acres he had sacrificed for Una's sake. He had found Mrs. Upham reading a novel, ostensibly. In reality, she had been gazing out the window at the rugged landscape, which would have offered many salient points to the eye of an artist. But, then, Mrs. Upham was not an artist. A moody silence fell between husband and wife for a second or two. She broke it petulantly:

"What is it Shakespeare says about thankless serpents and children's sharp teeth, Mr. Upham? Dear me, before I was married I had my Shakespeare at my tongue's end. But if some women had gone through with what I have since then, they would have forgotten the very alphabet by this time, let alone a lot of rubbishy poetry. What's the quotation, Mr. Upham?"

"I believe he says something, somewhere, about a thankless child being sharper than a serpent's tooth," said Mr. Upham, coming lamely to her assistance.

"That don't sound exactly right either, but I suppose it as near right as we are likely to get it between us. Mercy!" she drew her shawl closer up about her shoulders, "how dismally that wind does howl! The idea of rational human beings perching on a mountain side, just to please a wayward, thankless girl. Though we certainly can't call her as sharp as a serpent's tooth, for after all I've done for her and all the money we have spent on her, she is nothing but a silly child of nature and a thankless one at that. Oh, that wind. Do you suppose we are going to have a storm, Mr. Upham?"

"I should not wonder if we were, but not before daylight. Where is Una?"

"Down at Mrs. Bryant's cabin, as usual. What she sees in that coarse creature and those forlorn children, passes my comprehension."

"Mrs. Bryant is plain but not coarse," said Mr. Upham, always ready to champion Una when possible, "and teaching those children has seemed to amuse Una immensely. I'm glad she's had the diversion."

"The mother and the children of a suicide my daughter's daily companions! We have come to a high estate!" Mrs. Upham's voice was full of disgust.

"We have come to a higher estate than when we had the husband of that suicide and the father of those children for our almost daily companion." Mr. Upham had become a master of retort, recently.

"I will always maintain," said Mrs. Upham, stubbornly, "that Leonard Heywood was, at heart, a good man and a gentleman, but he is not the first man that was ever led astray by a wicked, designing woman. Dear me. What an aristocratic-looking man he was. I think he was just superb."

Mr. Upham got up in disgust, and taking his hat, started down the rocky pathway in direction of the tiny cabin where Una had insisted upon installing the woman and the children with whom she had come in contact so strangely.

"Let me do something for them, papa," she had pleaded, on learning of poor Maggie's death. "I know that poor mother would be glad to get out of that awful place. Let her come here and take care of our milk and butter. You will like her, papa; she is rough, but honest."

And Mr. Upham, casting about eagerly for every harmless diversion possible for his darling, whose languor and pallor wrung his tender heart sorely, had written for the woman on Tompkins square and she had come gladly. It was an after-thought which took Una down the hill-slope every day to instruct the grave-eyed boy and the round-cheeked girl whom she had chanced upon so accidentally, that morning in Tompkins square. As her father said, it had been a diversion.

She liked Mrs. Bryant, too. She found her, in her homely way, interesting and instructive. When she could keep her off the topic of Maggie's misfortunes and tragic death, which it was not always possible to do, she proved herself a mine of folklore. She had failed, this gray afternoon, of suppressing her hostess. Perhaps it was the howling wind and the



"THEY ARE MINE! THEY ARE ALL YOU HAVE LEFT ME, AND I WOULD KILL THEM BEFORE YOU SHOULD TAKE THEM FROM ME."

brooding storm which had quickened Mrs. Bryant's bitter memories to the point of utterance. Una had been offering her well-worn consolation. The old woman turned upon her peevishly:

"Yes, miss, I know, I know. She said he was her husband and the father of her children and that I must forgive him; but that was not saying he did not do it."

"She said all that she had the strength to say, Mrs. Bryant, and you know it was the finding of that empty knife-sheath in your poor Maggie's satchel by Miss Dashwood, that convinced the lawyers it was a suicide. For the children's sake do try to forget."

"Miss Dashwood!" The old woman's face darkened at the sound and she ground the name out between tight-clinched teeth. "Yes, she stood by him. It was her father got him off. Oh, I could curse them both!"

She raised her brown and wrinkled hand as if to call down heaven's maledictions on the woman who had wrecked her child's happiness. Una leaned over, and laying a gentle hand on the uplifted one, placed it softly upon its owner's lap once more.

"Hush! She is beyond the reach of earthly bane or blessing."

"Dead?"

"Dead."

"When? How?" The glowing hatred that, but a moment before, had set the old woman's sunken eyes and withered cheeks aflame, was swallowed up, temporarily, in eager anxiety for Una's reply.

"She was found dead in her chair in her own parlor one evening, nearly two months ago. The papers say that her physician had been giving her morphia for sleeplessness, and they presume she took an overdose by accident."

"Two months ago, and you never told me!" Her voice was full of reproach.

"I have never voluntarily introduced your trouble into our talks," Una answered readily. "Her name always excites you so fiercely. I don't know how it came up just now. But now it is all in the dead past."

"Did you ever see her?" Mrs. Bryant asked in an awed undertone.

"Never. They say she was very beautiful, and I think she must have been very wicked and also very miserable."

That "never" was uttered in good faith. Una had no means of connecting the pale, beautiful woman, shabbily garbed and meek of manner, who had come to her school-room that day, bemoaning the loss of a drummer lover, with the opulent and beautiful Miss Dashwood, nor had she, happily, the remotest idea that it was by reason of an insane jealousy, ignorantly provoked by herself, that Miss Dashwood had lured Leonard Heywood on, using him as a tool, until he was helplessly and hopelessly in her toils. She was, all unconsciously, meting out a sort of retributive justice in befriending Margaret Bryant's mother and children.

"I think it is going to storm," she said presently wrenching the conversation into a different groove by force, "and I am afraid it will be so cold after the storm that mother will be wanting to go back to town. What will you and the children do during the winter, Mrs. Bryant? I hate so to go away and leave you."

The old woman was busy paring and cutting up apples to dry. She smiled grimly into the sweet, questioning eyes that were fixed anxiously upon her.

"Don't you go to worrying over us, Miss Upham. We'll just stay on where we are. You know I'm used to roughing it. But yonder's the old gentleman. I guess he's come to scold me for letting you stay down here so late. You've been a great comfort to me, my dear."

"We'll have some more talks about Rafe and Lucy before I do go," Una said, rising hastily and drawing the hood of her cloak over her head. "I always save papa that last stone, if I see him in time. It's a real jumping-off place."

She hurried up the rocky pathway towards

"I did not come for them," Leonard Heywood said, seating himself unasked, in the chair Una had vacated. "I did not even know where you had taken them to. Of course, you know that I have a legal right to them."

"Yes," with a painful gasp.

"But I have no desire to exercise it, at present. Nor, indeed, until they need me. I am going abroad. I shall be gone for years, perhaps. When I come back they must come to me to be educated. But that possibility is years off. I wronged their mother—I will make it up to them, if possible. I shall leave money at your command for their use. I am very tired. Can you give me a cup of tea or coffee?"

Mrs. Bryant rose mechanically in response to this request. She scarcely recognized in this pallid, quiet man the light-hearted lover of her Maggie, nor the wretched, shrinking creature whom she had accused of her child's murder! The man seemed to have gone through some fierce ordeal, out of which he had come altered in a manner that almost put him beyond recognition. She stood for a moment gazing at him sternly.

"What did you mean by saying you did not even know where I had taken the children to?" she asked suspiciously.

"Because I did not know."

"Then what brought you here?"

"I am looking for Mr. Upham. Rafe tells me he lives just up on the crest of that hill."

"Mr. Upham? What do you want with the old man?"

"Well, then, Miss Upham."

"What do you want of her, Leonard Heywood? Another heart to break and throw away? Haven't you wrought misery enough in this world yet with those black eyes and that oily tongue of yours?"

He winced under the lash of the old woman's tongue. He sat motionless, almost apathetically listening to her. He had wrought her too deeply to show resentment.

"You are Margaret's mother, therefore privileged. I do not care to invite your mockery by trying to tell you what I have suffered and do still suffer when I think of the madness of the past two years of my life. I am not going to Miss Upham as you think I am. I am going there to perform a simple act of justice. To undo, rather, an act of great injustice. I think she will be glad to see me."

Margaret's mother looked him searchingly in the face. It was hard for her to give credence to anything which fell from the lips that had betrayed her girl. There was something, however, that compelled belief this time.

"If you've come to do her good in any form or shape," she said slowly, "I'll help to hurry you forward, for she's been the angel in this house and the one bright thing in my life since the good Lord sent her to pray by my dying Margaret's bedside."

Then she went heavily out of the room, leaving him with his head buried in his folded arms.

CHAPTER XII.
LOST AND FOUND.

HE short, dull afternoon closed in suddenly. The lamps were all lighted in the cottage on the hill. Mrs. Upham generally placed one in every available spot. Anything, she would say, to make things look a degree less dismal. Una had lain down immediately on getting

back to the house. She was far from strong and the upward climb from Mrs. Bryant's cabin always left her limp and nerveless for awhile. Mr. and Mrs. Upham sat mutely before the crackling wood fire. Not even by a spoken word would they risk shortening the sleep she was taking. She waked of her own accord, however, and lay there listening to the moaning winds some moments before she called softly:

"Papa."

The old man went towards her eagerly.

"Yes, my darling."

"Sit down by me," she said imperatively.

He brought a chair and placed it close enough to lay a caressing hand on her shining hair. She put up one of her thin, white hands to pat his wrinkled cheek softly, as she said musingly:

"Poor, old papa! It has been a failure all the way through, hasn't it?"

"What has been a failure, honey?"

"Everything—I—the Uphams—city life—everything!"

"Not you, my rosebud. I'm a failure, Una; I suppose I was born a failure, and we didn't seem to strike it off just right in town, either, but I won't let you call my girl a failure."

"Why, papa, I'm the worst failure of the lot! If it had not been for me, you and mamma would have been happy on the old plantation right now. Ugh, that dismal, wailing wind!"

Here Mrs. Upham joined in the conversation somewhat tartly from where she sat close up to the blazing logs:

"While you are enumerating the failures, Una, speak for yourself and your father. I

am but the victim of your caprice. I could have been perfectly happy in the city." "Papa, if mother wishes it, let us go back to-morrow. It does not matter in the least where we stay. I thought when I asked you to stop here in the mountains, so much nearer to God, so far away and above the wicked people we brushed so closely against down there, that I would be happier—but—" "And you are not, my sweet?" "No, no, no!"

The tears that she was trying to hide with one blue-veined hand slowly trickled into sight. Mr. Upham's wretchedness broke all bounds. He bent over her imploringly.

"My sweet, you have never yet told your father what gave you such a quick disgust for city life. You've always put me off with 'some other time.' Hasn't the time come yet, daughter?"

"Not yet. Some other time—soon, may be, father."

She rose, suddenly, on one elbow to ask him feverishly:

"How much does it lack of being two years, father, since we left the old place?"

"Two years to-night, dearie. Mother and I were just talking about it."

"Two years to-night!" She was silent for a second; then, almost with a sob: "Oh, that dreary, moaning wind. It is like the wail of a lost spirit over dead human hopes."

"It is not overly gay in the mountains at this season of the year, that is a fact, honey. It begins to look sort of dreary. The leaves are falling, you see, and the gray rocks show up too plain and bare. Things look sort of dead outdoors."

"Yes, it is growing dreary everywhere! Things look dead—everywhere!"

"Oh, no! No, indeed—not everywhere. Things are stirring on the old plantation now. Cotton picking and fodder pulling and gin mending and all the rest of it." There was a wistful attempt at gaiety in the old man's voice.

"And the morning-glories are climbing all over the ripened corn," said Una, with answering wistfulness; "and the red trumpet flowers are waving along the hedge rows. Papa, whenever I close my eyes I can see the golden rod and the shining black elderberries, and—oh, dear me!" The words died away in a gentle sigh.

"To be sure—to be sure! It was a fine old place, Una."

"Poor old papa, and for my sake you left it all."

"Never you mind me. Just you get real strong and rosy, my pet, and I won't care where I roost."

At that moment the little family circle was brought to its six feet simultaneously, and its six eyes were fixed in astonishment upon a man, who, entering the room without even the ceremony of a knock, dumped a large valise on the floor and said, with cheerful ease of voice and manner:

"There we are. And if you don't believe it's all right, try it yourself. Good evening to you all."

"Good evening, sir," responded Mr. Upham with more emphasis than mere hospitality demanded. "What will you have?"

"Pay for lugging them traps up from the bottom of the mountain," answered the man, depositing an overcoat and walking-stick on top the valise.

"But they are none of mine!"

"Did anybody say they was? Might your name be Upton?"

"It might, but it is not." Mr. Upham glared wrathfully from the calm visage of the mountaineer to the luggage he had deposited on the floor.

"Hupplish—Uppish—Duppish?"

"Upham, goose!" from Mrs. Upham, angrily.

"Thank you, marm. Well, then, Mr. Uppen-goose, I was ordered to fetch them traps up here by sundown, and I just missed it by two hours."

"Who ordered you to do it?"

"Him as had the best right to do so. The owner of 'em."

Here Mrs. Upham's eagerness grew quite uncontrollable:

"But who was the owner? What did he look like and what did he say? Are you certain he told you to bring them to this house?"

"Just as sure as I am that you are standing there clattering so I can't get a word in edge-ways."

"Go on and tell your story," said Mr. Upham imperatively.

"Last night a young gent stopped at the tavern I'm porter at, and was for coming straight on here, until we convinced him it would be sort of foolhardy to try it in the dark, so he concluded to wait for breakfast this morning and then he set off brisk and early. When he left, he said if he wasn't back at the tavern by four this afternoon, I was to fetch his things after him."

"But the man never came!"

"No? Why, it ain't two hours' walk from the 'Mountain Rest House' to this here perch of yours."

"What can it mean?"

The Uphams looked wonderingly at the porter and at each other. The mountaineer scratched his head reflectively:

"I guess it means that he lost his way. It won't be particularly jolly sleeping out in the woods to-night."

"Suppose it is Leonard Heywood!" Mrs. Upham clasped her hands tragically. Her admiration for that reckless young aristocrat was not yet thoroughly subdued.

"That don't fit the lettering on the end of that young trunk," said the mountaineer, turning the valise briskly about until Mrs. Upham's eyes rested on its owner's name.

She read it contemptuously:

"Nobody, after all, but that drummer—Fenton Cooper!"

Una started towards the man, with cheeks like two calla lilies:

"Fenton Cooper? Lost in these mountains? Oh, father, father, quick! Get torches—call the men! Father, he was coming to me—my love—my love! Find him, good man, you know the mountain."

Mrs. Upham took her angrily by the arm.

"Una Upham, are you losing your senses? Is my daughter going crazy over a drummer? You make me blush for you."

"Let her alone," said Mr. Upham sternly.

"Come, my man, we've got to go hunting, dark as the night is. We'll have him here before supper time, Una. Now, my man, twenty-five dollars for this night's work. Lead the way."

The sturdy old farmer had been struggling into his overcoat and gloves while talking. The mountaineer, spurred to an unusual degree of activity by that dazzling offer of twenty-five dollars, led the way briskly. Una hung herself moaning and shivering on the rug before the fire. Mrs. Upham stood over her, quite too much alarmed by her pallor and agitation to give vent to her overwhelming indignation. Into this perturbed presence the dull-eyed waitress, bewildered by this un-

usual nocturnal activity about the cottage usually so quiet, introduced Leonard Heywood with the barren announcement:

"Here's a young fellow I found 'bout to knock at the door."

Mrs. Upham sprang towards him with outstretched hands. Una, lifting herself heavily, stood leaning against the mantel shelf, white and trembling. She did not once turn her eyes toward the man her mother was welcoming so effusively:

"Then it was you, after all!" Mrs. Upham was saying excitedly.

"It was me. Yes—madam—I—but—"

"But how did you find yourself?"

"How do I find myself? Quite well, my dear lady, thank you, and yourself?"

"But you were lost! And everybody, that is, Mr. Upham and another man, have gone to find you."

"I don't quite understand. I have not been lost. I came here, straight from the city, of my own free will and choice to make the amends honorable, as far as lies in my power, to your daughter."

He advanced fearlessly towards Una. She raised her eyes and let them travel slowly and cruelly from his flushed brow to his peevishly clasped hands.

"In what manner can Margaret Heywood's husband and Miss Dashwood's lover make the amends honorable to me, for ever having polluted the air I breathe?"

He stood before her with humbly-bowed head:

"By helping to restore her faith in the man whom he was base enough to slander falsely to the woman he loved."

"And that man?"

"Is Fenton Cooper. One of the truest and most incorruptible of men."

"Is it possible," said Mrs. Upham with biting scorn, "that you consider it worth your while to climb these rocks, just to chant the praises of a poor—drummer?"

"Drummer? Fenton Cooper a drummer?"

"Yes, a poor traveling drummer. There's his grip-sack, and he's lost somewhere among these rocks right now. Una's absurd fancy for him is crushing me to the earth."

Her lids dropped quickly; there was that in his eye she could not meet boldly. He had come back to her, loyal and true, but what wild wanderings of the heart, what wild injustice towards him, must she confess before hoping to feel his strong, true arms about her once more!

"If you only knew," she said tremulously, "you would not have come back to me at all."

"If I only knew what?"



"FATHER, QUICK! CALL THE MEN! HE WAS COMING TO ME!"

"Mother," Una lifted her hand commandingly, "be still! You have no right to discuss my affairs in this fashion, nor shall you call the one deep, holy and abiding attachment of my life for the man I trust and honor an 'absurd fancy.' For a few short months my wayward heart wandered away from its sworn allegiance. I was led to believe him false. But when the fogs of petulant anger cleared away from my brain, and I recalled what manner of man it was who saved my life on the first second of our meeting, when I recalled his calm dignity, his fearless truthfulness, his gentle chidings when I was reckless or silly, I loved him better than I ever believed I could love mortal man. I would not give my drummer friend for all the world contains."

"And he is worthy of it all. All the pure, ardent, unswerving affection you have so fearlessly avowed. Only," Leonard Heywood smiled sadly, "he is not a needy commercial traveler. He is one of New York's most affluent and influential young men. How could you have erred so in your social estimate?"

"What?"

It was Mrs. Upham who uttered that mousilyllable exclamation. Then she muttered something about seeing that supper was kept hot for the hunting party. If Fenton Cooper was not a drummer, and was on his way to see Una, a little preparation in his honor would not be out of place. Una and Leonard Heywood were left alone. She had sunk into a chair before the fire, and buried her face in her hands. Every instinct of her nature seemed to have resolved itself into the power of hearing. She was listening for the coming of those who had gone to hunt for her lover among the gray, cold rocks that surrounded the cottage on every side. She knew that Leonard Heywood was still in the room, standing there by the mantel, humble and penitent. She heard him talking to her, but his voice seemed to come from an immeasurable distance. She heard him call himself a repentant wretch who had been instrumental in retarding, not destroying, her happiness. She heard him explain unsparringly Ida Dashwood's complicity in all his schemes and her identity with the woman who had visited her that day in the school-room. She heard him call the man who had won her unspotted heart, "thrice blessed;" she heard him say that Fenton's coming had left him nothing to undo—and then she had heard him go away quietly, as if he were afraid of rousing her from the open-eyed trance into which she had fallen.

Presently she heard quicker, gladder sounds than Leonard Heywood's slowly-retreating

footsteps. There was the short, triumphant note with which Dauntless, her own superb colie, always announced the important fact of his return from any expedition. There was the heavy tramping of many feet and excited voices came to her in muffled tones. She was powerless to move hand or foot! How cruelly slow they were in bringing her tidings! Perhaps they were bringing home a corpse!

Soon, the door to the room where she sat was opened and some one came in. Only one person, who walked towards her with a slow, limping step, aided by a cane which thumped horribly upon the carpet at its owner's every step. In a frenzy of irritated suspense she faced towards the door.

Fenton Cooper was limping towards her slowly—had almost reached her chair. She waited for his coming with a fast-heating heart. There was something in his face she could not fathom. He stopped and folded his hands over the clumsy cane they had improvised for him. His face was twitching with the physical pain no will power could quite master. Una held out her hands in shy greeting. He appeared not to see them, while all the while his burning eyes were devouring her rich, pure beauty, taking glad note of every softened outline of each added grace of gesture, of the refined stateliness of her attitude, of every token that the years had added to, not robbed his white dove of a single charin.

"I have come back to you, Una, just when I said I would, but not as I meant to. I was clumsy enough to sprain an ankle upon your slippery rocks. I have been climbing, climbing upwards, ever upwards, my sweet child, to reach you. Are you glad to see me, Una, very glad, my love?"

Her lids dropped quickly; there was that in his eye she could not meet boldly. He had come back to her, loyal and true, but what wild wanderings of the heart, what wild injustice towards him, must she confess before hoping to feel his strong, true arms about her once more!

"If you only knew," she said tremulously, "you would not have come back to me at all."

"If I only knew what?"

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Our Household.

THE UNFINISHED STOCKING.

Lay it aside—her work—no more she sits
By open window in the western sun,
Thinking of this and that beloved one
In silence as she knits.

Lay it aside; the needles in their places;
No more she welcomes at the cottage door
The coming of her children home once more
With sweet and tearful face.

Lay it aside, her work is done and well;
A generous, sympathetic, Christian life;
A faithful mother and a noble wife;
Her influence who can tell?

Lay it aside—say not her work is done;
No deed of love or goodness ever dies,
But in the lives of others multiplies;
Say it is just begun!

HOME TOPICS.

SALAD.—All salads should be used the same day they are prepared, and they are better if the dressing is kept on ice and not poured over the salad until just before it is sent to the table. Melted butter may be used in making the dressing instead of oil. If oil is used, it must be added slowly, drop by drop, and before the vinegar is put in, or it will curdle.

CHICKEN SALAD.—Take the white meat of a cold, boiled chicken, three quarters of the same bulk of chopped celery, two hard-boiled eggs, one raw egg, one teaspoonful each of made mustard, salt and pepper, three teaspoonfuls of salad oil, two teaspoonfuls of white sugar, one half teacupful of vinegar. Mince the chicken well, removing all fat, skin and gristle; cut the celery into pieces half an inch long. Mix the chicken and celery together and set it in a cool place while you prepare the dressing. Rub the yolks of the eggs to a fine powder, add the salt, pepper and sugar, then put in the oil, a drop at a time, rubbing it well into the egg each time. After the oil is all in, add the mustard. Beat the raw egg to a froth and stir it in, then add the vinegar, slowly beating the dressing all the time. Pour the dressing over the salad, tossing it with a silver fork until it is thoroughly mixed. Turn it into the salad-bowl, cut the whites of the eggs into rings and lay them over the top.

SALMON SALAD.—A quick salad can be made by using a can of salmon in place of the chicken. Chop the whites of the eggs and mix with the salad. Prepare the dressing as for chicken salad and garnish the top with very thin slices of lemon.

MUSTARD.—To prepare mustard for the table, take two tablespoonfuls of Coleman's mustard and one teaspoonful of flour. Mix this smooth with a little cold vinegar. Mix together four tablespoonfuls of vinegar, one tablespoonful of olive oil, one teaspoonful of sugar, one teaspoonful of salt and one of black pepper. Set this on the stove in a suitable dish and let it come to a boil, stirring it all the time. Pour the boiling mixture into the other, stir it well, and as soon as it is cold it is ready for use.

EVERY-DAY LIFE.—The holidays have come and gone, with their joy and gift-making, their happy home-gatherings, and with them has gone the old year. A new year is spread out before us, with its fair, unwritten pages, upon which will be recorded all we do, enjoy or suffer in its time. We know not what it may bring to us nor what it may take away. Let us try to live our daily lives so that the lives around us may be the happier and better for our being with them.

The facetious advice, "Always keep two bears in the house," (bear and forbear), which is often given to young people on their marriage day, would, if faithfully followed, save a world of trouble and often long years of sorrow and regret.

"Your ain ill's hae heart to bear;
Anither's aye hae heart to feel."

It is a very good rule for husband and wife to each resolve never to be angry when the other one is, or at least not to manifest anger. If this is done, a quarrel will be impossible. It requires a strong will to do this and to be silent under provocation. Only divine aid can give us this victory over ourselves, and help us to conquer this disposition to "talk back." There is a great deal of nonsense about

the talk of "freeing one's mind." It is much better to

"Govern your passions with absolute sway,
And grow wiser and better as life wears away."
Blessed are the peace-makers, and blessed indeed are those who have a tender regard for the feelings of others.

It is often a source of wonder why children of professed Christians so frequently wander away from the faith of their parents into unbelief and infidelity. May it not be, not from lack of precept, but because of the daily life in the home? While we bravely and with Christian fortitude bear the great trials, the losses and sorrows of life, we often miserably fail before the little, petty, every-day crosses which come especially to every mother and housekeeper, whether she has many servants or only one pair of hands to provide for all the needs of the family. If the children see us worrying over our cares—impatient when things do not go smoothly, when the fire won't burn or the butter will not gather, when a favorite dish is broken or a cup of tea is spilled on the clean table-cloth, can we teach them a beautiful faith and trust in the Heavenly Father? Perhaps the little one tries to help mother, and accidentally spills or breaks something. "Oh, dear," says the tired mother, "you are a great deal more plague than help. Go away and let things alone." And the child goes away with a hurt in his heart, and a thought that mother is cross. Ah, these children notice our every act and word, and draw their own conclusions. Let us pray daily and hourly that we may have strength to bear the little, every-day worries and vexations patiently and with the Christlike spirit. Let our every-day life show that Christianity is a living truth, and God an ever-present helper and comforter.

MAIDA McL.

CROCHETED HUG-ME-TIGHT.

A great many simple ways are now taken to make garments for wearing under the jacket, or about the house, when one feels cold around the shoulders.

Procure five ounces of best Starlight Germantown yarn, and one ounce of a different shade for the border; eight plain, bone buttons, one larger button for the waistband. Use a No. 11 bone crochet needle. Begin for the front with eleven chain stitches.

First row—Miss two-chain stitches nearest needle, and work nine consecutive double crochets.

Second row—One chain to turn, miss first stitch, work nine double crochets, using the whole of stitch. All the following rows are worked the same, turning with one chain and missing first stitch.

Third row—Eight consecutive double crochets, two double crochets to increase in last stitch.

Fourth row—Plain ten stitches.

Fifth row—Nine consecutive double crochets, two double crochets to increase in last stitch. Work three plain rows of eleven stitches.

Ninth row—Ten stitches, two in the last.

Tenth row—Plain twelve stitches.

Eleventh row—Eleven stitches, two in last. Work three plain rows of thirteen stitches. Continue increasing on same side of the work proportionably to the last six rows, till in working the seventy-eighth, seventy-ninth and eightieth rows, you do thirty-five stitches in each row.

Eighty-first row—Beginning on the straight side of the work to round for the neck—one chain to turn, miss two stitches instead of missing one stitch, work thirty-three double crochets, and two double crochets in last stitch.

Eighty-second row—Plain thirty-five stitches.

Eighty-third row—Decrease again at the neck, and increase at the end.

Eighty-fourth row—Plain thirty-four stitches, omit last stitch.

Eighty-fifth row—Decrease at the neck, do thirty-two double crochets, omit last stitch.

Eighty-sixth row—Plain thirty-one stitches, omit last stitch.

Eighty-seventh row—Decrease at neck, do twenty-nine, omit last one. Decrease at the beginning of each row, and omit working the last stitch for eight rows.

Ninety-sixth row—Decrease, work to end.

Ninety-seventh row—Decrease at the neck, do ten double crochets, omit last stitch.

Ninety-eighth row—Decrease, do nine double crochets.

Ninety-ninth row—Decrease at neck, do seven double crochets, omit last stitch.

One hundredth row—Decrease, do six double crochets.

One hundred and first row—Decrease at the neck, do four double crochets, omit last stitch.

One hundred and second row—Decrease, do three double crochets.

One hundred and third row—No decrease, do two double crochets.

One hundred and fourth row—A double crochet and fasten off. Work the other front in same manner.

FOR THE BACK—Make eighteen chains,



CROCHETED HUG-ME-TIGHT.

miss two stitches nearest the needle, work sixteen double crochets.

Second row—One chain to turn, miss first stitch, and taking up both threads of previous row, work sixteen double crochets.

Third row—Increase at each end.

Fourth row—Plain.

Fifth row—Increase at each end.

Sixth row—Plain.

Seventh row—Increase at each end.

Repeat last two rows twice. Work three plain rows.

Fifteenth row—Increase at each end.

Sixteenth row—Plain.

Seventeenth row—Increase at each end.

Work three plain rows. Work proportionably to the last six rows till in working the eighty-third, eighty-fourth and eighty-fifth rows you do seventy-four stitches in each row.

Eighty-sixth row—Decrease one stitch at each end. Work seven more rows the same.

Ninety-third row—Decrease, do twenty, turn and work for shoulder, shaping to correspond with the shaping of front shoulder already done. Work other shoulders in the same manner. Sew shoulder-pieces together. Take the border color and work three rows of plain double crochet all around the hug-me-tight; in the second row of this make eight button-holes as you go along, right-hand side of front, by chaining three and missing three.

WAISTBAND.—With color used for body of garment make twelve chains, miss two stitches nearest needle, work ten double crochets. When four rows of ten double crochets are worked, divide in the middle to form a button-hole, do four rows of five stitches, then do the other five stitches for four rows, and finally working all across continue ten double crochets forward and

backward for the length required for belt. Edge all around with three rows of double crochet with color. EVA M. NILES.

A SMALL COMPANY.

The question of how to serve a dainty tea for a small company of eight or ten has been asked by a young housekeeper, so feeling it may be a query with some one else, I will try and make it plain for all. In every bride's presents of to-day, table-linen and silver form an important part. After you are married, girls, you will regret first of all that you spent so much money on useless articles of your wardrobe, so let me say right here to those of moderate means, save something from that to put into table appointments when you go to housekeeping. Your wardrobe will get very much out of style in six months; do not burden yourself with fifteen new dresses to start with, as one I know did, and have them to remodel in less than a year—or feel you have so many on hand that you cannot in conscience think of having anything new for two or three years. But I am digressing. If to begin with you have nice table-linen, and some silver, the rest can be easily managed.

Never buy an entire set of any kind of decorated ware if it must last you for a number of years. It will go out of style and you will be tired of it in less than a year. A half dozen each of dinner and breakfast plates, cups and saucers, of white Limoge or Vienna china, will give you more satisfaction than all the decorated ware you can get, though these may be supplemented by an occasional delicately painted piece. If you cannot think of silverware to start with—though let me say it is the cheapest, for in ten years of housekeeping you will break twice the price of it in china or glass cream-pitchers and sugar-bowls, and teapots—then provide glass or china sugars and creamers. The patterns in both are very lovely now. The prettiest are in Japanese designs, or the dark blue or any of the fancy designs. These things need not match any of your tableware unless you choose.

Low, glass dishes or china ones in long, narrow shapes, or square ones, are now preferred for sauces, and fruit and vegetables; four platters are necessary—two small ones, alike, for cold meats, a larger one for carving, and a larger still for turkey or melon.

To arrange your table for a small company, first lay the cloth perfectly straight, in the center place a low platter of nicely arranged flowers in mass, along the center place your tablespoons, lying straight across the center line of the table-cloth; at each end a small sugar-bowl and cream-pitcher on opposite sides, also a fancy pitcher of vinegar, an individual pepper and salt, which now come in beautiful designs in silver, glass or china, and have entirely superseded the castor.

At each place lay a knife, fork and teaspoon straight, at the right hand a napkin, upon which may lie one flower, a pink, rose, or geranium leaf or any single flower or spray of flowers. If your meats are cold, it is perfectly proper to have the plates at each place, and pass the platter with a fork lying across it, or you may have the plates in one pile at the carver's place and let him help each one. If you do not have good serving, it is best to simplify matters as much as possible. Unless you have a good waiter, it is much more of a compliment to your guests to have your own children perform that part. The hostess herself should not, as she should be seated with her guests. The butter should be cut and put upon the individuals beforehand—kept on ice or in the cool and brought in and placed before calling. Then the dish for a further supply placed upon a side-table or sideboard. This may hold also the water-pitcher and glasses, though this could be poured also just before calling.

I am writing this, understand, for those who must do much of their own serving.

It is a very pretty addition to pour the coffee and tea at the table, but allow each guest to fix it to suit himself, as it takes up your time and you cannot always get it right.

After the meat course is through, the

plates should be removed for clean ones for cake and fruit.

Rather than have so many dishes on hand, if you live where you can do so, hire a couple of dozen of plates and saucers to help out your own. The expense is trifling and in this way you can select prettier dishes. I think young housekeepers make a great mistake in filling up their houses with unnecessary articles. I know I did. In these days the temptation to spend money for useless bric-a-brac is a temptation hard to resist. A little colored girl called it "break-your-back," and her name was pretty true, for it breaks your back to take care of it all.

"Too much house," the Indians say "kill white squaw," and it is virtually true.

In the houses of olden times they used the same things, dishes, furniture and all, for years and years, taking a pride in keeping them; now the rage seems to be to clear everything out every few years. This wasted money laid up would soon accumulate to a fortune, and that is the way our forefathers got their fortunes.

BETINA HOLLIS.

WASHING IN WINTER.

I feel sure that among the many readers of the FARM AND FIRESIDE, some women are to be found who do, along with sewing, cooking, sweeping, etc., the washing for their families. While it is hard enough to do the washing any time in the year, it becomes infinitely worse during the winter months. The risk to be taken then is incalculable.

These winter washings have been the primary cause of many a wife and mother finding an early grave. Call it a dispensation of Providence if you will, I call it a result of hot steam from the tubs, combined with carelessness. Rather strong language, I know, but if you had seen, as I have, seemingly sensible women go from the steam-heated wash-room to the clothes-line in the yard, and there in the face of a northern or southern wind, proceed to hang up the weekly washing without having taken other precaution than to pin a shawl or some other light wrap over their heads, you would certainly agree with me that stronger things might be said. If a mother does not care enough for herself to try to preserve her health, she should at least do so for her children's sake.

But the washing must be done. Certainly, the washing must be done in winter as well as summer; but why not exercise a little prudence? In the first place, the wash-room, usually the kitchen, ought not to become so heated by steam; the outside door should be left open, slightly, to admit cold air, or opened wide when the clothes are being taken from the boiler. But the laundress must not stand in the draught. Then when the clothes are ready for the line, I would urge you to let the "gude mon" hang them out; true, he may not hang them as scientifically as you would, but you should be satisfied. His hands are not so susceptible to cold as yours are. Indeed, I think it will hurt no man to help his wife wash when her one pair of hands must do so much.

It will be better, much better, for you to dry your clothes in the house. An attic to dry clothes in is a luxury possessed by few. Now, if you do not have your clothes dried in the house, and if there is no one to assist you, then do take some care of yourself. Pull down your sleeves, put a cloak on—a shawl will not do, for when you raise your arms it blows back, allowing the cold to strike you over the chest and lungs. Put overshoes on, wrap something warm about your head, and wear mittens of cotton flannel or white yarn, if you can use them, and tie a silk handkerchief, or something equally close, over your mouth. I make this emphatic for the reason that it is a precaution rarely taken, and yet it is a most necessary one. When one is warm, respiration is more rapid, and it seems as though air could not be taken in the lungs fast enough through the nostrils; the result is that breathing is done through the mouth, and the air reaches the lungs without being tempered, as it were. The cold air striking the heated lungs will certainly bring on some derangement, and having the mouth tied up, thus compelling the nostrils to do their

own work, cannot, you see, be otherwise than advantageous. We cannot afford to run any risks where health is concerned.

Another thing I would urge is the wearing of woolen dresses during the winter. So many women wear calico and gingham dresses, which are sure to find their way to the wash every week, making additional work. A flannel or cashmere dress, after having been worn for best until it begins to look shabby, can often be made to do service as an every-day dress for one winter, any way, sometimes for two winters, and need not be in the wash, either, if one is careful. Many women who do their own work buy half wool dresses for every day. They of course line them all through. Much of the so-called "cheap dress goods" will give as much wear as the more expensive goods. Of course it is closely-woven goods that wear best.

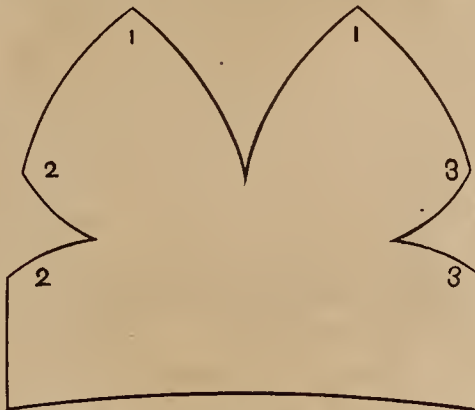
One ought to study how to save washing in winter. A pair of sleeves made to draw over the dress sleeves, a rubber run in at the top and buttoned at the wrist, is one way to economize; there are many others, however, if one will think them out.

ELZA RENAN.

THE SEWING-BASKET.

There are houses that some of us know about where the dreaded mending-basket is never empty—always buttons to sew on, always elbows to patch and stockings to darn. Where there are boys, these last articles get to be a problem, for every week the holes are worse, and new holes build themselves right next to a neat darn in the most aggravating way.

Neither the idea nor the pattern is original, but you shall have it, nevertheless, and here it is:



Cut this out of chamois skin, or soft leather, and lay 1 and 1 together, 2 and 2, 3 and 3, and overhand neatly, allowing it to be just a little loose so it will not form a hard seam. These placed upon the heel of the stocking will help them very much. The stockings nowadays do not wear like those our grandmothers knit, no matter what price is paid for them. If they are fine, the stitches break; if coarse, they are so loosely woven that they are soon gone.

When sewing on buttons, if you will hold the button loose and make the stitches loose, so that when you have enough thread in it you can pull it away from the cloth and wind a little thread between the button and the garment, forming a neck, you will find it will wear much better. A tightly-sewed button tears out the cloth and cuts the thread.

ELBOW PATCHES.—It may seem too much trouble, but it will pay you in the end to make the elbows of all school-wearing garments double. Baste a piece of the material to the lining, and then put the whole sleeve above this; when the outside begins to wear away, you can readily cut around the worn part and neatly hem down to the piece underneath. It often happens that the pieces of a dress or apron get hid away and cannot be found when wanted.

In planning clothes for a little child, you will be surprised how it will save you to make several aprons alike, for when half worn the best of one can be taken to mend another. It is the same with boys' wear: if you make the clothes yourself, use navy blue yachting flannel, then one pair of pants will patch another. No kind of goods wear these days as they used to years ago, and so much cheap stuff is put out in a tempting way that you think you are being economical by buying 8-cent gingham and 25-cent, all wool goods(?)—as if it were possible. Nothing that is cheap is worth your while to make up for a child going to school. There is so much hard wear upon clothing in

school. For winter, one good wool dress will last the season, save washing, and give more comfort than three cotton ones. Try it and see.

CHRISTIE IRVING.

COMFORTS.

As the winter season approaches, the busy housewife begins to look over her stock of blankets and comfortables to see wherein the stores need replenishing. Sometimes the inventory is very discouraging—a lot of thin, worn blankets and some ragged quilts and comfortables, all too good to be thrown away, and yet rather shabby for use. "What shall I do?" says the good woman; "cash is not very plenty just now, and it will cost a good deal to buy new bed furnishing."

Sisters, that is just what I thought, too, and made up my mind that wit and ingenuity must aid a scanty purse. The stores were visited, and a bolt or two of calico secured, that was out of style in figure, but of good quality; hence the price was lowered and a bargain secured. One can often do that, for when a store is filling up with new goods, old ones likely to be out of style will be sold nearly at or even below cost to make room for new and more salable goods.

Two or three rolls of new cotton batting were bought, the outfit costing about five dollars, with which I hoped to furnish five beds with quilts. At home there were some long cretonne curtains, faded from washing and laid aside, but strong in texture. The cretonne lambrequins were a little more difficult to piece together in shape, but patience and perseverance accomplish a great many wonders. Some good calico sashes of worn-out dresses were pieced together in strips, and the little girl pieced blocks for two upper covers while learning to sew on the machine.

Now we have the covering all planned for. Sew the new lining to the quilt frames, fasten the clamps to the corners, lay on one or two of the worn wool blankets, according to desired thickness. Baste or pin the edges to the lining, so that the surface may be smooth, put on the upper cover, pin the edges and proceed to tie as usual. Or, if you take an old comfortable, lay it on the lining which is fastened to the frames; draw the edges straight and baste them to the lining, so that the old quilt will be drawn smooth and tight; take the scissors and cut off the old ties, as they will be hard bunches that will soon wear holes through the new covering. Put a little new batting where the old is gone, or very much worn, then pin on the new cover and tie as usual.

Some use all-wool carpets that are worn thin as filling; these are very heavy, but make nice comforts to lay over mattresses and straw ticks, under the sheets—"most as soft as a feather bed," say the little ones.

When making new quilts or comforts, unfold the batting its full size, put a layer across the quilt lengthways, then one crossways, the third lengthways again, and so on, alternating every layer until you have the desired thickness. Batting thus put on will not separate and leave long lines between the folds. In using cretonne as a covering, I think it would be best to line with calico, as cretonne is quite heavy, but it will wear a long time.

Bright-colored cotton is pretty for ties, as it makes even a faded covering look attractive. And so, sisters, I have eight nice comforts—three heavy and five lighter ones—out of my stock of ragged quilts, cretonne curtains, sashes, pieced blocks, two bolts of calico and two or three new rolls of batting to fill in the thin places in the old quilts.

TOPSY.

CLOTH RUG.

This pretty rug is made of scraps of yarn and woolen goods. The center is fifteen inches in diameter. The scallops are cut separately; size, two by three. Work button-hole stitch around the edge. The tree and owls are worked in outline stitch.

I would say to Lulu that I have visited in families where small girls like myself and larger members of the household thought fancy work all foolishness. I find their conversation very foolish and silly; they think of nothing but the last neighborhood gossip, etc., while others who find work a delight can be found always brilliant in conversation and reading,

studying the Scriptures on Sabbath days. Lulu ought to know better than to disobey her husband.

I think a sensible girl that exercises herself helping mamma has no need of cosmetics to beautify her complexion. And as for bangs, they are out of style; the hair looks much better pompadour. "Little girls ought to be seen and not heard." Didn't I hear some one shouting that?

JULIA.

ORANGE PIE.

Beat a cupful of powdered sugar and a large tablespoonful of butter together until light. Moisten two even tablespoonfuls of corn starch with a little cold milk, and then stir it into half a pint of boiling milk; cook and stir one moment, then pour it quickly on the butter and sugar, add the grated yellow rind and the juice of an orange, mix, and add one egg, well beaten. Peel another large, juicy orange, cut it into thin slices and then cut each slice into quarters. Line a Washington pie-plate with light paste, and bake in a quick oven until done. Stir the orange slices quickly into the custard mixture, fill the baked crust with this, and place in a quick oven a few minutes to brown. While it is browning, beat the whites of two eggs until light, add two tablespoonfuls of powdered sugar, and beat until stiff. Spread this over the pie, dust thickly with powdered sugar, and stand again in the oven until lightly colored.—

Table Talk.

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Our Sunday Afternoon.

THE IRRESISTIBLE CALL.

"My soul is not at rest." How could it be? The heathen's helpless cry calls unto me.

They grope in deepest gloom to find life's way; They know no Savior strong, sin's debt to pay.

The life beyond death's gate brings anxious thought; Deliverance from guilt in vain is sought.

I know the mighty Christ from heaven has come, The incarnate love of God—his blessed Son.

Mine is the precious boon to tell his grace, His matchless power to save the human race.

Tireless my feet must bear his word to all; Ceaseless my voice must sound his holy call.

"My soul is not at rest;" it could not be, When such a labor grand so moveth me.

—Baptist Missionary Magazine.

GOOD FOR FITS.

OR a fit of passion, walk out in the open air; you may speak your mind to the winds without hurting any one or proclaiming yourself a simpleton.

For a fit of idleness, count the ticking of a clock; do this for one hour, and you will be glad to pull off your coat the next and work like a beaver.

For a fit of extravagance and folly, go to the work-house, or speak to the inmates of a gaol, and you will be convinced.

For a fit of ambition, go to the churchyard and read the grave-stones; they will tell you the end of ambition. The grave will soon be your bed-chamber, and the earth your pillow; corruption your father, and the worm your mother and sister.

For a fit of despondency, look on the good things God has given you in this world, and to those he has promised to his followers in the next. He who goes into the garden to look for cobwebs and spiders no doubt will find them, while he who looks for a flower may return into his house with one blooming in his bosom.

For all fits of doubt, perplexity and fear, whether they respect the body or the mind, whether they are a load to the shoulders, the head or the heart, the following cure may be relied on, for I had it from the Great Physician: "Cast thy burden upon the Lord, and he shall sustain thee."

WHY NOT AN INFIDEL?

I once met a thoughtful scholar who told me he had read every book he could which assailed the religion of Jesus Christ, and he said he should have become an infidel but for three things: "First, I am a man. I am going somewhere. To-night I am a day nearer the grave than I was last night. I have read all such books can tell me. They shed not one solitary ray of hope or light upon the darkness. They shall not take away the guide and leave me stone blind. Second, I had a mother. I saw her go down into the dark valley where I am going, and she leaned on an unseen arm as calmly as a child goes to sleep on its mother's breast. I knew that was not a dream. Third, I have three motherless daughters. They have no protection but myself. I would rather kill them than leave them in this sinful world, if you blot out from it all the teachings of the gospel."—Bishop Whipple.

BOY CHARACTER.

It is the greatest delusion in the world for a boy to get the idea that his life is of no consequence, and that the character of it will not be noticed. A manly, truthful boy will shine like a star in any community. A boy may possess as much of noble character as a man. He may so speak and live the truth that there shall be no discount on his word. And there are such noble, Christian boys, and wider and deeper than they are apt to think is their influence. They are the king boys among their fellows, having an immense influence for good, and loved and respected because of the simple fact of living the truth.—Child's Paper.

THE OLD MAN.

Bow low the head, do reverence to the old man, once like you. The vicissitudes of life have silvered his hair and changed the round, merry face to the worn visage before you. Once the heart beat with aspiration, crushed by disappointment, as yours, perhaps, is destined to be. Once that form stalked promptly through the gay scenes of pleasure, the beau ideal of grace; now the hand of time that withers the flowers of yesterday has bent that figure and destroyed that noble carriage. Once, at your age, he possessed the thousand thoughts that pass through your brain, now wishing to accomplish deeds equal to a nook in fame; anon imagining life a dream that the sooner he awoke from the better. But he has lived the dream very near through; the time to awaken is very near at hand; his eye never kindles at old deeds of daring, and the hand takes a firmer grasp of the staff. Bow low the head, boy, as you would in your old age be revered.

A WORD TO THE TIRED.

This is a beautiful world, and God meant us to rejoice and be glad in it. We ought to make our homes cheerful. It is astonishing what a depressing influence some houses have upon you before you enter them, and after you enter them—they look so cold, so cheerless, so colorless and comfortless. It is not want of furniture or want of means, but there is an absence of that cheeriness, and coziness, and brightness, which says so eloquently, "Welcome to a home." Our churches, too, ought to unite reverence with brightness and heartiness of worship. We read concerning the temple of Jerusalem, "Upon the top of the pillars was lily work." Yes, strength and beauty are to be in God's sanctuary; everything therein should help and not hinder, the lifting up of our hearts unto the Lord. We cannot close without remarking that there can be no true lifting up of the heart where any habit of sin is dragging down the spiritual nature. We must be lifted up to God by the Holy Spirit, or there will be no true uplifting of heart at all.—World's Crisis.

DON'T SCOLD.

Mothers, don't scold. You can be firm without scolding your children; you can reprove them for their faults; you can punish them when necessary, but don't get into the habit of perpetually scolding them. It does them no good. They soon become so accustomed to fault-finding and scolding that they pay no attention to it. Or, which often happens, they grow hardened and reckless in consequence of it. Many a naturally good disposition is ruined by constant scolding, and many a child is driven to seek evil associates because there is no peace at home. Mothers, with their many cares and perplexities, often fall into the habit unconsciously; but it is a sad habit for them and their children. Watch yourselves, and don't indulge in this unfortunate and often unintentional manner of addressing your children. Watch even the tones of your voice, and, above all, watch your hearts; for we have divine authority for saying that "out of the abundance of the heart the mouth speaketh."

ONE AT A TIME.

I compare the troubles which we have to undergo in the course of the year to a great bundle of fagots, far too large for us to lift. But God does not require us to carry the whole at once. He mercifully unties the bundle, and gives us first one stick which we are to carry to-day, and then another which we are to carry to-morrow, and so on. This we might easily manage if we would only take the burden appointed for us each day; but we choose to increase our troubles by carrying yesterday's stick over again to-day, and adding to-morrow's burden to our load before we are required to bear it.—John Newton.

LOOK HERE, FRIEND, ARE YOU SICK?

Do you suffer from Dyspepsia, Indigestion, Sour Stomach, Liver Complaint, Nervousness, Lost Appetite, Biliousness, Exhaustion or Tired Feeling, Pains in Chest or Lungs, Dry Cough, Night sweats or any form of Consumption? If so, send to Prof. Hart, 83 Warren St., New York, who will send you free, by mail, a bottle of *Floralplexion*, which is a sure cure. Send to-day.

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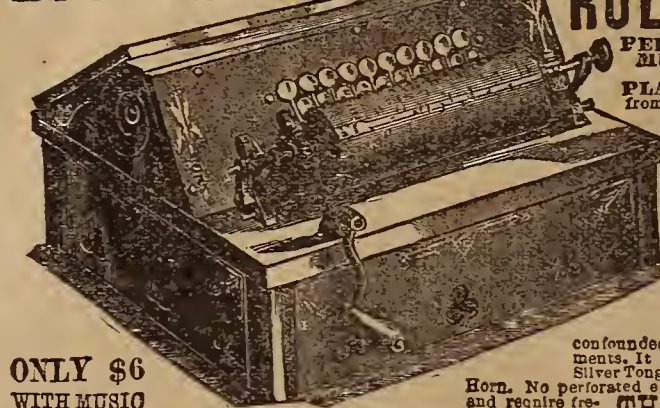
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Wild Rice.—F. L. M., Sandy Lake, Pa. You can get seed of wild rice from R. Valentine, Janesville, Wis.

Rag-Carpet Looms.—A. C. C., Churchill, Mich. E. M. Graves, Oceana, Mich., manufactures rag-carpet looms.

Road Machines.—W. H. N., Kenton, Tenn. Excellent road machines are made by the American Road Machine Co., Kennett Square, Pennsylvania.

Pump-making Machinery.—L. L., Chouchilla, Cal. For information about pump-making machinery, write to Rumsey & Co., Seneca Falls, N. Y.

Self-threading Needles.—G. F. D., Peoria, Ill. Self-threading sewing needles are sold by the New England Novelty Manufacturing Company, 24 Portland Street, Boston, Mass.

Adhesive Plaster.—S. W. C., Antigo, Wis. To three quarters of a pound of dachylon add one half ounce of powdered resin. Melt by a slow fire, stirring constantly. Spread the plaster thinly, while warm, on linen or thin leather.

Celery in Storage.—C. H. J. asks: "Can you tell me what causes the leaves to turn yellow after the crop is housed?"

REPLY BY JOSEPH:—Probably the roots are kept too dry; they do not supply the tops with the required nutriment and moisture, and the outside leaves decay. Or, can anybody give a better reason?

Early Sweet Corn.—N. L. S., of Gincite, Mo., asks: "Which is the best kind of sweet corn for early markets?"

REPLY BY JOSEPH:—I think the Cory (or Early Cory) corn is the variety that I should plant for earliest, both for market and home use. The plants are dwarf, ears of very fair size, I might say large, for so early a variety; quality very passable, and the ears come in as early as any sort that I know of.

Sweet Potatoes.—J. H. C., of Milford, Del., desires sweet potato growers to tell their methods of culture, keeping, marketing, etc., in FARM AND FIRESIDE. Joseph will contribute an article on the subject in one of the next issues. In the meantime we would like to hear what the experienced growers among our readers have to say in regard to the business. From 200 to 250 bushels per acre is considered a very good yield. We have no high opinion of pine leaves as a fertilizer for this or any other crop.

Agriculture.—C. A. S., Corinne, N. D., writes: "Can you place me on the track of a history of agriculture, beginning with its earliest times down to the beginning of the present century?"

REPLY:—You will find what you want under "Agriculture," in the "People's Library for the Farm, Home and School," for sale at this office. Three bound volumes. Price, including one year's subscription to FARM AND FIRESIDE, \$2.50, or given as a premium for ten new subscribers at 50 cents each.

Kainit for Oranges.—A subscriber of Chuluota, Fla., writes: "What do you think of kainit as a fertilizer for orange trees that have not yet come into bearing? Also, please give analysis."

REPLY BY JOSEPH:—A fair sample of kainit contains 2 per cent moisture, 1 per cent lime, 11 per cent magnesia, 16 per cent potash, and 22 per cent sulphuric acid, beside salt, etc., all respective of fractions. For complete treatise on use and value as a fertilizer, read "Agricultural Chemistry" in these columns.

Variegated Aspidistra.—B. K., of Tingley, Iowa, forwards leaves of plant, with following description: "On this iris-like plant there is a thick, fleshy root at the surface of ground similar to flag-roots, and from this the feeding roots radiate. What is it, and is it hardy?"

REPLY BY JOSEPH:—This is Aspidistra clatior variegata, an easily-cultivated and hardy foliage plant, from Japan, one and one half to two feet high. It succeeds well in almost any soil, and is propagated by suckers. The leaves are oblong, large, leathery, and the plants stemless. In the leaves of this variegated form green stripes alternate with white ones.

Spanish Onion.—W. H. N., of Kenton, Tenn., asks: "Is the Spanish onion grown from seed or sets? Where can seed or sets be obtained, and when to be planted?"

REPLY BY JOSEPH:—The imported bulb, I believe, is grown from seed. The "Spanish" onion introduced several years ago by Johnson & Stokes, when grown from seed in the usual way—that is, seed planted in early spring—gave me fine bulbs and great satisfaction for a while, but was soon excelled by the new Prize-taker, introduced by Mr. Maule, of Philadelphia, and repeatedly spoken of in these columns. This variety, indeed, is the only one which could be planted here with any prospect of growing bulbs equal in size and appearance to the imported "Spanish" onions.

Potatoes for Seed.—H. B., of Gales Creek, Oregon, writes: "I have had the impression that leaving the seed ends on medium-sized tubers used for seed would give me too much vine. Would you advise cutting the seed ends off?"

REPLY BY JOSEPH:—This has long been a disputed point. Now the experimenters are gradually beginning to find out that the seed end is the most important part of the tuber. Every cut weakens the vitality of the seed, and for this reason we prefer to plant, if practicable, a whole potato, without touching a knife to it. If it is in a perfect state of preservation but few eyes will grow, and these usually start from the seed end and make very large and thrifty tops, and tubers correspondingly. I have never yet had more top than I wanted in the potato field.

Meeker Harrow.—F. K., of Morven, Ont., writes: "Will you favor me with a description of this new harrow, naming price and where obtainable?"

REPLY BY JOSEPH:—The Meeker harrow consists of a frame with four rollers, each having a number of disks on same axis. The two front rollers have larger disks and fewer in numbers, the two hind rollers smaller ones and closer together. This harrow is chiefly designed for giving the finish to a piece of ground, and to follow after disk, Acme or

common steel-tooth harrow. It is a most excellent implement for its purpose, and its thorough use makes the use of a steel rake, in preparing land for onions or any other garden crop, entirely superfluous. It is a pity that this tool is so high priced, and consequently so little known and used. Price is \$22, I believe, and it is kept on sale by leading seedsmen.

Fertility of Soil.—C. L. N., Hurlock, Md., writes: "I have two fields, precisely alike in soil and fertility. I plant both to corn. The first field I cultivate thoroughly and with great skill, and harvest a large crop. The second field receives indifferent treatment and produces a small crop. When the next year comes will there be any difference in the fertility of the fields? In other words, does a large crop exhaust the soil more than a small crop, when the only difference is the means of preparing the ground and after-cultivation?"

REPLY:—The large crop will take away more plant food from the soil than the small one. On the other hand, improper cultivation hardly ever fails to waste plant food, so that at the end of the season the difference in the fertility of the two fields will not amount to as much as the difference between the crops. The best farmers raise the largest crops. The largest crops exhaust the soil the most. But the best farmers do not stop at that. They take proper care of the soil, and keep up its fertility.

The Oregon "Man-Root."—T. J. A., Nehalem, Oregon, writes: "I enclose a small leaf of a vine that is known on this coast as 'man-root,' or 'man-in-the-ground,' because of its immense root or bulb, often being found as large as a half barrel, and sometimes twice that size. The bulb hides itself some fifteen or eighteen inches beneath the surface, and early in the spring throws up a most rampant growth of succulent vines, clambering by huge tendrils to a height of thirty to sixty feet, or covering several square rods of brushwood in a dense mass, and bearing oval squashes the size of a goose-egg, covered with large spines. The root and gourds

milked, and whenever she has a 'caked bag,' milk her five, six or seven times a day, and thus draw out as soon as possible the conglutinated casein.

Degenerating Hoof Horn.—M. S. G., Norristown, Minn. Keep the horse on dry ground. Keep the floor of the stable dry and clean, and keep the hoofs of the animal clean. If, then, the hoofs should show any brittleness, anoint them with glycerine.

Ophthalmia.—J. B., Jamestown, Col. Consult article on epizootic ophthalmia in FARM AND FIRESIDE of September 15th. If that does not meet your case, it may be that the animal has some foreign body, a chaff or something of that kind, on the eye-ball.

Lameness.—W. C. M., Neponset, Ill. What you call lameness is only an imaginary disease. All colts have succulent gums; there is nothing wrong in it. If your animal is ailing, it is probably from indigestion, or the same being of proper age, is shedding its molars, and on that account may not eat as well as it would otherwise, but will be all right as soon as that process is finished.

Grease Heel.—W. B. K., Belle Center, Ohio. Make liberal applications, three to four times a day, of a mixture of liq. subacetate of lead, one part, and olive oil, three parts; keep the feet and legs of the animal clean, but do not clean them with water, and keep the animal out of mud and dirt. For further information I have to refer you to recent issues of the FARM AND FIRESIDE.

In-and-In Breeding.—H. N. M., Roley, Tex., writes: "Is it advisable to inbreed horses? I have a fine colt of my own raising. Would I do wrong to breed his own cousin and half sister to him?"

ANSWER:—I cannot advocate what you propose to do. A weak constitution and arrested development in one or more parts of the body are often the result.

Mange.—L. C., Selma, Ind. If your cow has mange, wash her with a good tobacco decoction (two pounds of good, strong tobacco to



FIG. 1. FIG. 2. FIG. 3.
Fig. 1.—Branch showing leaves, tendrils, flowers and embryo fruit. Fig. 2.—Lengthwise section of seed, natural size. Fig. 3.—Spine-covered squash containing the seeds.

are intensely bitter. What are its common and botanical names? Has it ever been introduced as an ornamental plant? Is it known in medicine?"

ANSWER BY GEO. W. PARK:—This vine is a member of the gourd family, and is known in science as *Megarrhiza Californica*. Its common name is "man-root," as indicated by our correspondent. It is also sometimes called California big root. Some years ago this plant was illustrated and described by the horticultural journals, and seeds of it were offered by seedsmen; but it is to-day rarely seen, except in botanical gardens, and some horticulturists say that is the only suitable place for it. The root is said to yield a glucoside called megarrhizotin. It is actively cathartic. That the readers of FARM AND FIRESIDE may have some idea of the vine and its fruit, we give the accompanying drawings. It will be noticed that there is some resemblance of this vine to the common native vine of the eastern states known as wild cucumber. The latter, however, is diminutive when compared with its California relative, and lacks the tuberous root which is one of the wonders of the gourd family. The section of seed represented in the drawing is of one enclosed by our correspondent, and is shown natural size.

Sulphate of Ammonia.—G. N. C., of Oberlin, Ohio, writes: "Will you please tell me whether sulphate of ammonia can be had at our common gas works, and by what name they call it? They have a by-product that is death to vegetable growth. You do not mean this? Where can nitrate of soda be obtained?"

REPLY BY JOSEPH:—Sulphate of ammonia is a by-product of the gas works; whether you can get it at your nearest gas works or not you can soon discover by inquiry from the managers. The by-product you refer to as being death to vegetables is gas lime, which, when fresh, has that effect. I shall speak of its composition and value(?) at some other time. Where nitrate of soda may be obtained? People sufficiently interested in all these problems to come to us with queries, as you do, would do well to read with greater attention the articles on agricultural chemistry. Our whole business success is based on this knowledge and its proper application. Look up the chapter on nitrate of soda.

VETERINARY.

Conducted by Dr. H. J. Detmers, Veterinarian of the Ohio Agricultural Experiment Station, and Professor of Veterinary Surgery in Ohio State University.

To regular subscribers of FARM AND FIRESIDE, answers will be given through these columns free of charge. Where an immediate reply by mail is desired, the applicant should enclose a fee of one dollar, otherwise no attention will be paid to such a request. Inquiries should always contain the writer's full address. Queries must be received at least two weeks before the date of the issue in which the answer is expected. Subscribers may send their veterinary queries directly to Dr. H. J. DETMERS, 35 King Avenue, Columbus, Ohio.

Black Leg.—J. A. R., Agee, Neb. Your diagnosis is correct. A treatment is seldom of any avail. It is best to raise young cattle away from such places where black leg or malignant edema occurs.

Wound on Knee.—A. W. L., Blackburn, Mo. Dress the sore with iodoform and absorbent cotton, and then apply a bandage. Renew dressing and bandage twice a day, and invariably commence bandaging at the hoof.

Garget.—N. Y., Keepville, Pa. See to it that your cow is regularly and always thoroughly

five gallons of water), but first clean her thoroughly, and then clean and disinfect the premises where she is kept. Treat the calf in the same way, and repeat the same treatment on the sixth day, and then, if you have done good and thorough work, your animal will be cured. If you have not, another repetition will be necessary.

Swelled Joint.—J. M. B., Webster, W. Va. As you do not say that your horse is lame, I have to suppose he is not, and as you do not state whether the "puff" is hard or soft, fluctuating or not, and do not even give its exact location, it is impossible to decide whether it is bog spavin, thoroughpin, any other gall, or an inflammatory swelling. In one statement, however, you suggest the remedy yourself. You say exercise produces a decrease. Now, then, give exercise during the day, and prevent an increase during the night by applying gentle pressure by means of a bandage. But commence bandaging at the foot.

A Chronic Cough.—S. W., Sutcliff, Cal., writes: "I have a mare which has a cough. She was founded three years ago, and she has coughed more or less ever since. She keeps in good flesh, but seems to suffer from the cough."

ANSWER:—What to give in such a case will depend upon the character of the morbid changes that produce the cough. Coughing is a concomitant of nearly all respiratory disorders, consequently, the simple statement that an animal coughs does not indicate the character of the disease. May be you feed musty hay. If such is the case, change the food.

Cattle Dying in the Corn Field.—M. E. S., Matteson, Kan. It is not safe to drive cattle into a cornstalk field when they are hungry, at least not as long as they are not used to that kind of feed. But if they first get a good stomach full of hay or of other dry food, and are then driven in, and the first day driven out, say after half an hour, the next day after one hour, the following day after two hours, and so on until they gradually become used to the change of diet, losses may be avoided. It is easy enough to make them eat a good stomach full of hay in the morning, if they are kept in a corral during the night.

Linseed Oil.—J. R. W., Artle, Ind., asks: "Is there any danger in giving a horse boiled linseed oil when he has spasmodic colic?"

ANSWER:—Most decidedly, because horses have great aversion to oils and fats, and do everything in their power not to swallow the objectionable stuff. Hence, if it is poured down into the trachea and into the lungs, and as it cannot be absorbed in the lungs, a fatal pneumonia will be the result. But even if it does go down into the stomach, it will thoroughly destroy the animal's appetite for several days. Besides that, oil has no curative effect whatever upon the morbid process of colic.

Chronic Discharge from the Nose.—W. R. B., Custer, South Dakota. Coughing and discharges from the nose are symptoms pertaining to nearly all diseases of the respiratory passages, especially if the same have passed into a chronic stage. Without an examination, or, at any rate, without a more complete description, giving characteristic symptoms, it is impossible to decide whether your horse suffers from chronic distemper, influenza or something worse. The latter is the case if there are ulcers on the septum of the nose, if the submaxillary lymphatic glands are swollen, and if the discharges from the nose have a tendency to dry up on the borders of the nostrils to dirty looking or brownish crusts. If neither of these three last symp-

toms is present, you may try the following: Tartar emetic, half an ounce; chlorate of ammonia, crystallized, two ounces, and powdered licorice root, marsh mallow root and anise seed, of each two ounces; the whole mixed to a powder, of which, three times a day, a heaped tablespoonful may be given mixed with the food. If the cough, after the use of this medicine, gets looser, and the discharges thicker and more abundant, the dose may be repeated. At the same time, good food, easy of digestion, and a good, dry, well ventilated and clean stable are necessary. If, however, the three symptoms last mentioned, or any one of them, are present, you had better inform the state veterinarian.

Swelled Head.—F. H. K., Littlefield, Neb., and J. B., Shilbaleth, Kan. Your descriptions leave me in doubt as to the character of the swelling. I therefore have to advise you to have the colt examined by a competent veterinarian. The term "lump" may mean anything. In a young horse the roots of the teeth are long, and the layer of bone covering the same is only thin. If, then, a young horse is a greedy eater, and the sides of the manger rather high and steep, bruising may often result. The treatment, of course, requires to remove the causes. But, as such swellings are sometimes of a different, more malignant character, I say again, the best advice I can give you is to have the animal examined by a competent veterinarian.

Lameness.—E. L. S., Buda, Neb. The dryness of the hoof does not constitute the cause of the lameness. You must look for that somewhere else, but where, I cannot tell you. The soles of the feet may be bruised, the animal may have been foundered, or may have ringbone. In fact, there are a great many possibilities. If the animal has been foundered, the hoofs will show more or less degeneration, and especially the sole will be full, or may be convex instead of concave. In that case the animal may need bar shoes; at any rate, a shoe beveled off inside the nail holes on its upper surface, so as not to press upon the sole. The horn of the hoof, in that case, also may be brittle, and an artificial softening of the same with glycerine, for instance, also may afford the animal some temporary relief.

Probably a Rheumatic Affection.—H. B., Kennebunk, Me., writes: "I have a mare that has become very lame. In the first place, she showed lameness in one foot when we were driving her, then it would pass off, and we would see no more of it for three or four weeks; then if we were driving her on the road, she would show a little lameness again in the right fore foot. About two months ago she became lame in both fore feet. She is lame about a week, then seems better for about a week; then, all at once she is taken as lame as ever. Sometimes she stands stretched out; after one day or one night, she stands all right again. She has round looking feet and legs. It has the appearance of navicular disease."

ANSWER:—The description you give is most assuredly not that of navicular disease. It either indicates the presence of a rheumatic affection, or points towards founder or laminitis of a somewhat chronic form. If it is the latter, you will find the hoofs abnormally warm, and increased pulsation in the digital arteries; but if the former, any strictly localized symptoms or morbid changes may be absent. Your case, therefore, requires examination before any treatment can be prescribed.

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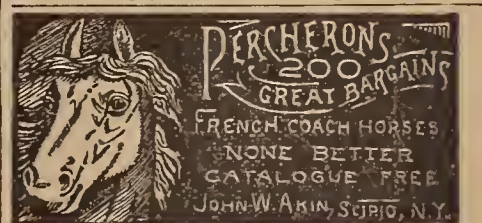
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PALMER'S BROODER.

Mr. B. C. Palmer, Water Mills, N. Y., sends the plans of a brooder, which he has used over three years. It is very simple, and not patented. He says: "The chicks never crowd. Two brooders kept a house 12x16 warm enough during the blizzard of 1888. I raised 166 chicks in one brooder 3½ feet square."

Fig. 1 is a sectional view, A being the lamp and B the inside back of the brooder. C is a yellow pine floor, which slides in or out, for cleaning, and is always kept well covered with sand. D is a board run, adjustable, and which may be lowered when the chicks are large enough to run on the floor. K is the opening between brooder and run. S S S are air-holes.

Fig. 2 shows the outside back. A is the lamp, and F F stove-pipe. 4½ inches diameter, capped and perforated at ends, which holds the heat, yet permits of the escape of gas and odors. H is a stove-pipe tube, leading from the lamp, and also shown in Fig. 1.

Fig. 3 shows the floor, being the front. K is the outlet for chicks to the run. N N are cleats, the front consisting of three boards, the lower two cleated together. The whole front is fastened with buttous, so as to be removed when brooder is cleaned. The upper board can be left off entirely when the weather is warm.

The run, reaching up to the egress K, is

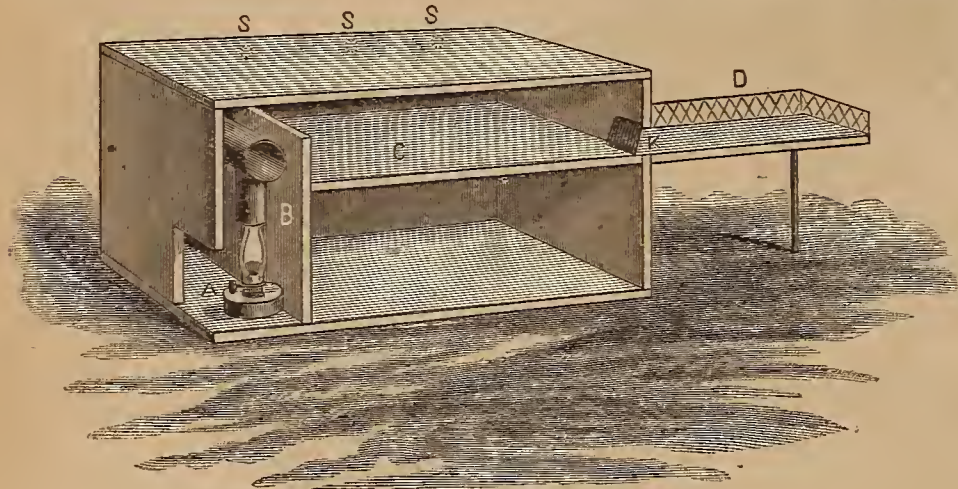


FIG. 1—SECTIONAL VIEW OF PALMER'S BROODER.

2 feet broad and 3 feet long, surrounded with a light lath or wire fence, to confine the chicks for a week or ten days. Then, the legs being removed, it forms an incline to the floor of the brooder-house.

The advantages of this brooder are: First—Simplicity in manufacturing and

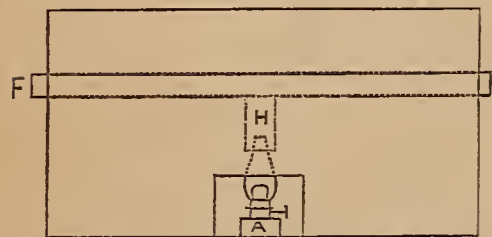


Fig. 2—OUTSIDE-BACK OF PALMER'S BROODER. cleaning. Second—No crowding; even heat; no draughts; always warm; no leg weakness; no louse-breeding top mother.

LOW PRICES.

We again call attention to the fact that it will not pay to ship poultry to market before January, as prices are low, and it is doubtful if shippers will receive any returns at all after transportation charges and commissions are deducted. Eggs sell well, however, and prices will continue to increase. Do not ship poultry alive at this season of the year, but kill and dress all birds intended for market. Turkeys are selling well now, but other kinds of poultry are in abundance on the stalls.

STUDY YOUR MARKETS.

Before shipping dressed poultry, be sure that you understand the requirements of the markets. In some cities the carcasses must be drawn, the feet cut off and the heads removed. In others the feathers only are removed, and in other markets the entrails are removed while the heads and feet remain. Any deviation from the usages of the place may cause the stock to remain unsold.

ROUP.

Swelled heads and eyes, hoarse breathing and discharge from the nostrils, are all signs of roup. It is very difficult to cure, and is caused by exposure to cold winds, damp weather and currents of air in the poultry-house. The remedy that is best is to keep the birds in a dry, warm place. Once a day anoint the face with a mixture of one part spirits turpentine and three parts glycerine, and inject one or two drops in each nostril and ten drops down the throat.

QUERIES ANSWERED.

Lice on Canaries.—Mrs. A. F., Sprague, Washington. Dust the birds well once or twice with fresh Dalmatian insect powder. Dust it down into the feathers on every part of the body, and dust every part of the cage also.

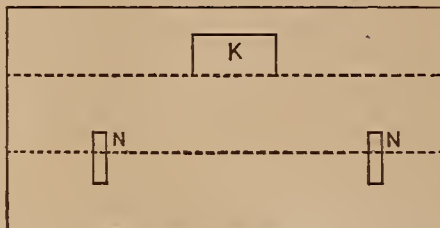


FIG. 3.—FRONT VIEW OF PALMER'S BROODER.

Scaly Legs.—V. M. T., Demoss Springs, Oregon. Anoint, once a week, with an ointment made of one part kerosene and six parts lard oil or cotton-seed oil.

Fattening Old Fowls.—Mrs. J. H. C., Bluff City, Tenn., asks "Can old roosters be fattened or prepared in any way to make them fit for the table?"

REPLY:—Confine them about ten days in a small yard or coop, and feed four times a day, on ground grain, mixed, scalded, with a mess of milk and bread once a day.

Age of Males.—G. T., Las Alamos, Cal., asks: "Which is best to breed from, a gobbler

that is about a year old, or one that is two or three years old?—How many hens should be kept with one gobbler?"

REPLY:—A yearling gobbler, with two-year-old hens, or an old gobbler with yearling hens, is correct.—One gobbler will be sufficient for as many as a dozen hens.

Nests.—Geo. Hadlow writes: "A very cheap and convenient material for nests is orange or lemon-boxes. They can be purchased for a mere trifle, and each box will make two nests. Put them on a shelf under the roosts, lay them down on the open side, with a lath, or anything, to keep the straw in; then, when they need cleaning, take them outside, build a fire and hold the box over the fire a short time, which will destroy nits, lice, or anything else that should not be there. When they get too filthy, burn the box, lice and all."

Cholera.—Mrs. C. N., Castalia, Dak., writes: "My chickens have been dying for the last two springs, with what the people here call cholera. Would those remaining carry disease with them until next spring, or future? Or, would it be safe to put them with a healthy lot that I purchased lately? Chicken-house is new, and away from where the old ones were."

REPLY:—The premises should be well disinfected by sprinkling the house and grounds with a solution made by dissolving a pound of sulphate of copper (blue stone) in four gallons of boiling water.

Eggs Not Hatching.—Mrs. E. J. J., Brady Island, Neb., asks: "Why do not my chickens hatch as well in the incubator as under the hen? They come to maturity, and a good many pip the shells, but die. I have good success with those that do hatch, and think they are stronger than when hatched under a hen. My incubator is a home-made one. It is packed in sawdust, with a sliding drawer. I keep the temperature at about 100 degrees when hatching, and from 102 to 104 during incubation; keep a dish of water under the drawer all the time, and sprinkle from the 9th to the 12th day once a day, and from the 12th to the 15th day twice a day with lukewarm water. My directions say, take eggs out once a day from the third day, and cool them to 75 or 80 degrees, but I have run mine three years, and think it best not to cool them."

REPLY:—Keep temperature at 103 degrees from beginning to end of hatch. Do not cool eggs, nor sprinkle them, as the rapid evaporation of the lukewarm water suddenly chills the chicks in the shells. Shut drawer when chicks begin to hatch, and do not remove them until all are out.

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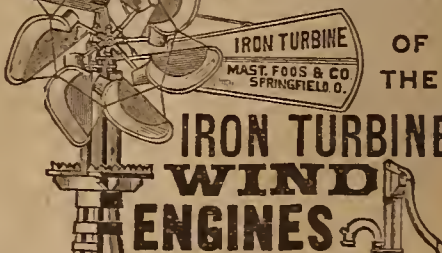


Hundreds in successful operation. Guaranteed to hatch as large percentage of fertile eggs as any other hatcher. Send 6c. for new Illustrated Catalogue. Circulars Free. GEO. H. STAHL, Patentee and Sole Manufacturer, QUINCY, ILLINOIS. Mention this paper.

POULTRY FOOD!
HOLLIS' CANNED MEAT for POULTRY
Will make Hens Lay!
Will make Chickens Grow!
AND GOOD FOR
MOULTING FOWLS.
This food is strictly fresh meat, carefully cooked, ground fine, seasoned and hermetically sealed in 8-10 cans. Being ground fine, it can be readily mixed with soft food and fed so as to give each fowl an equal share. Price, 30 cents per can; \$3 per dozen. Address HOLLIS DRESSED MEAT & WOOL CO., 20 North Street, Boston, Mass. Mention this paper.

THOMPSON'S
WHEEL
BARROW

SOWS CLOVER, TIMOTHY, HUNGARIAN FLAX, MIL-let, Orchard Grass & Red Top. Any quantity per acre correctly. Windy weather has no effect on the distribution. No guess work. It sows the quantity it is set to sow. Send for circular. O. E. THOMPSON & SONS, Ypsilanti, Mich. Mention this paper.

MAST, FOOS & CO.
SPRINGFIELD, OHIO.
MANUFACTURERS

IRON TURBINE
WIND
ENGINES
Strong and Durable. Will not Swell, Shrink, Warp or Rattle in the Wind.
BUCKEYE
FORCE PUMP
Works easy, and throws a constant stream. Has Porcelain Lined and Brass Cylinders. Is easily set. Is the Cheapest and Best Force Pump in the World for Deep or Shallow Wells. Never freezes in winter. Also manufacturers of the BUCKEYE LAWN MOWERS, Buckeye Wrought Iron FENCING, Cresting, etc. Write for Circulars and Prices.

PHOTO of your future Husband or Wife FREE! Send Stamp for Postage. CLIMAX CO. CHICAGO, ILL.

Our Miscellany.

Even such is time, that takes in trust
Our youth, our joys, our all we have,
And pays us but with age and dust;
Who in the dark and silent grave,
When we have wandered all our ways,
Shuts up the story of our days.
But from this earth, this grave, this dust,
My God shall raise me up, I trust.
—Sir Walter Raleigh (written the night before his execution).

NEVER obtrude any advice unasked.
BEECHAM'S PILLS cure bilious and nervous
ills.
NEVER judge a person's character by ex-
ternal appearance.

RECEIVE wealth or prosperity without ar-
rogance; and be ready to let it go.—*M. Aurelius
Antonius.*

HEARING RESTORED, by one who was deaf for
30 years. Full particulars with proof free. Ad-
dress John Garmore, L.B.16, North Vernon, Ind.

I TAKE it to be a rule, proper to be observed
in all occurrences of life, but more especially
in the domestic or matrimonial part of it, to
preserve always a disposition to be pleased.—
Spectator.

WE can all take courage from the words of
George Eliot, who wrote: "The darkest night
that ever fell upon the earth never hid the
light, never put out the stars. It only made
the stars more keenly, kindly glancing, as if
in protest against the darkness."

A Specific for Throat Diseases.—Brown's
BRONCHIAL TROCHES have been long and fa-
vorably known as an admirable remedy for
Coughs, Hoarseness and all Throat troubles.
"They are excellent for the relief of Hoarse-
ness or Sore Throat. They are exceedingly ef-
fective."—*Christian World*, London, England.

GREAT has been the evolution of the bicycle.
First, a toy, then a necessary vehicle, and now
a political factor! In many parts of the
country the wheelmen combine to elect county
officials who will pledge themselves to see that
the roads are improved. The wheelmen can
do much good in that direction and deserve
encouragement.

A GREAT MISFORTUNE.

The heavy fall rains very often totally ruin
crops in many localities, and its effect is then
seen in diseases among poultry and farm ani-
mals. Almost every day cases of roup, swelled
head and a distemper very disastrous among
poultry are reported. A part of this is also
due to improper feeding. Many persons think
as soon as cold weather comes on, they must
begin to feed heating food to their hens, like
corn meal, etc. The result of this course is, if
they do not break down from the diseases
prevalent, they soon get very fat, look fine and
people wonder why they do not lay. You can-
not make a hen lay when everything you give
her is being transformed into fat, and laying
the foundation of disease the same as with an
over-fed child or person. Alfred T. Johnson,
Hampton, N. H., says: "Last fall I had 80 fine
looking hens, which began to droop and die;
I changed their food and began using Sheri-
dan's Powder, in three weeks they were nearly
well, and had increased the eggs sixteen a day.
I have just bought six cans of it, as a pre-
ventative of disease the coming winter. It
can't be beat, for that large can saved me \$40
last year."

Mrs. E. B. Carlin, Conklin Centre, N. Y., says:
"I have used Sheridan's Powder to make hens
lay for three years. I know it also keeps them
healthy, for I rarely lose one now. My neigh-
bors are getting interested in Sheridan's Pow-
der; but they do not use half enough; one or
two small packs is not a fair test. I shall send
soon for six cans, as I get it cheaper. During
an eight weeks' trial, using Sheridan's Powder,
I got from forty hens, 1,707 eggs. People laugh-
ed at me when I began to use Sheridan's Pow-
der, and I had no idea I should win a premium.
"They laugh best who laugh last," however. I
got more eggs than any of my neighbors, and
some of them had over 100 hens." I. S. John-
son & Co., 22 Custom House Street, Boston,
Mass. (the only makers of Sheridan's Condi-
tion Powder), will send for 50 cents, two packs
of Powder; for \$1.00 five packs; for \$1.20 one
large 2 1/2 can, postpaid; six cans for \$5, express
prepaid. A copy of the best poultry paper for
5 cents. Send stamps or cash.

Wouldn't Take \$10.00 for the Peerless Atlas.

MOUNTAIN DALE, N. Y., Dec. 9, 1889.
I received your Peerless Atlas of the World
in good order, and I like it very much. It is
just what I wanted. I would not take ten dol-
lars for it.
EFFIE DAYTON.

JACKSON, MICH., Dec. 9, 1889.
I received the Peerless Atlas and am very
much pleased with it. I think I can sell sev-
eral of them in my neighborhood, as it seems
to be very complete and the maps are so clear
and plain.
JULIUS H. CHURCH.

GREELEY, COL., Dec. 13, 1889.
We received the Peerless Atlas of the World
and like it very much. It far exceeds our ex-
pectations.
GEORGE J. SMETON.

HOW TO TREAT INEBRIATES.

Dr. Elliot, in a recent lecture at Toronto,
gives the four principal conditions that must
be observed for the treatment of inebriates to
be successful. The first is abstinence; this
must be absolute, and on no plea whatever of
fashion, of physic or religion ought the small-
est quantity of an intoxicant be put to the
lips of an alcoholic slave. The second condi-
tion is to ascertain the predisposing and ex-
citing causes of inebriety and to endeavor to
remove these causes, which may lie in some
remote or deep-seated physical ailment. The
third condition is to restore the physical and
mental tone, and the fourth condition is em-
ployment: let the mind of the patient be
kept occupied by attention to regular work.—
New York Commercial Advertiser.

COMPLIMENTARY NOTICE.

To those wishing roses, hardy plants, bulbs
and seeds for home planting, we cordially re-
commend the old reliable house of The Dingee
& Conard Co., West Grove, Pa. They are ad-
mitted to be the largest rose growers in Amer-
ica, and their roses and plants are well and
favorably known all over the United States
and Canada. Their New Guide, 110 pages,
handsomely illustrated, describes and tells
how to grow more than two thousand varieties
of the newest and choicest roses, hardy plants,
bulbs and seeds, and is sent free to all who
write for it. See advertisement on this page,
and address the Dingee & Conard Co., West
Grove, Pa.

THEY NEVER COME OFF.

"The buttons I sew on never come off," said
Mary. "Try my plan, and you will be
equally fortunate. When you begin, before
you lay the button on the cloth, put the thread
through so that the knot will be on the right
side. That leaves it under the button, and
prevents it from being worn or ironed away,
and thus beginning the loosening process.
Then, before you begin sewing lay a large pin
across the button so that all your threads will
go over the pin. After you have finished fill-
ing the holes with thread, draw out the pin,
and wind your thread round and round be-
neath the button. That makes a compact
stem, to sustain the possible pulling and wear
of the button-hole."

A SEEDSMAN'S ENTERPRISE.

J. J. H. GREGORY, the well known seedsman,
proposes to distribute free among his custom-
ers of this season, a year's subscription to one
hundred agricultural publications, to be se-
lected by the fortunate ones from a list to be
sent them, which will include all the papers
and magazines of this class published in this
country. Full details will be found in his
catalogue, advertised in our columns. Of
course this is an advertising enterprise, but of
a character which will permit all to wish well
to both the parties concerned. In response to
frequently repeated solicitations he has a like-
ness of himself in his catalogue of this year.

CHINESE HAVE NO NERVES.

The North China Herald says the quality of
"nerveless" distinguishes the Chinaman from
the European. The Chinaman can write all
day, work all day, stand in one position all
day, weave, beat gold, carve ivory, do infi-
nitely tedious jobs forever and ever, and dis-
cover no more signs of weariness and irrita-
tion than if he were a machine. This quality
appears early in life. There are no restless,
naughty boys in China, they are all appal-
lingly good, and will plod away in school with-
out recesses or recreation of any kind. The
Chinaman can do without exercise of any
kind; sport or play seems to him so much
waste labor. He can sleep anywhere, amid
rattling machinery, deafening uproar, squall-
ing children, and quarrelling adults. He can
sleep on the ground, on the floor, on a bed, on
a chair, in any position. It would be easy to
raise in China an army of a million men,
tested by competition—examination as to
their capacity to go to sleep across three wheel-
barrows, head downward like a spider, their
mouths wide open and a fly inside.

CATARRH CURED.

A clergyman, after years of suffering from that loath-
some disease Catarrh, and vainly trying every known
remedy, at last found a prescription which completely
cured and saved him from death. Any sufferer from
this dreadful disease sending a self-addressed stamped
envelope to Prof. J. A. Lawrence, 88 Warren street,
New York, will receive the recipe free of charge.

FREE
Prettiest BOOK ever Printed.
SEED
ONE CENT A
PACKAGE, and
up, per rarity, scarcity,
or cost. 1000000 extras. Cheap as
dirt by oz. & lb. Send your address.
E. H. SHUMWAY, Rockford, Ill.
Mention Farm and Fireside when
answering advertisements.

HAIR ON THE FACE, NECK, ARMS OR ANY PART OF THE PERSON

EASILY, QUICKLY AND SAFELY REMOVED WITH

MODENE

AND THE GROWTH DESTROYED WITHOUT INJURY OR DISCOLORATION TO THE SKIN.



DISCOVERED BY ACCIDENT. In compounding another preparation, the incom-
plete mixture was accidentally spilled on the back of the hand, and on washing
afterward it was discovered that the hair was completely removed. We pur-
chased the new discovery and named it MODENE. It is perfectly pure, free
from all injurious substances, and guaranteed to be as harmless as water. It
is so simple any one can use it, and you will be surprised and delighted with
the results. It acts mildly but surely. Apply for a few minutes, then wash
off and the hair goes with it. It has no connection whatever with any other
preparation ever used for like purposes, and no scientific discovery ever ob-
tained such wonderful results. IT CANNOT FAIL. If the hair be thin
and fine, one application will remove it permanently. The heavy growth, such
as the beard, or hair on the arms, may require two or more applications before
all the roots are destroyed, although all hair will be removed each application.
Young persons who find an embarrassing growth of hair coming, should use
Modene to early destroy its growth.

Recommended by all who have tested its merits.—Used by people of refinement.

Gentlemen who do not appreciate nature's gift of a beard will find a price-
less boon in Modene, which does away with shaving. It penetrates the hair
follicle or sac and destroys the life principle, thereby rendering its future
growth an utter impossibility. Modene sent by mail, in safety mailing
containing three times as much Modene, and sufficient for any case, \$2.00 per bottle.
Largest size bottle, with your full address written very plainly. Correspondence sacredly private. Postage stamps received the
same as cash. (BE SURE TO MENTION YOUR COUNTY AND THIS PAPER.) Address

AGENTS WANTED. MODENE MANUFACTURING CO., CINCINNATI, O. **GENERAL AGENTS AND ADVERTISERS WANTED.**
You can register your letter at any post-office and insure its safe delivery.
\$1,000 REWARD. To convince the public that Modene is an article of merit, we mail with each
bottle sold a legal agreement to forfeit One Thousand Dollars to any Purchaser
or Scientist, if Modene fails to permanently remove the hair, or discolors or injures the skin in the slight-
est manner, or produces any unpleasant sensation or feeling when applying or ever afterward.
EVERY BOTTLE IS GUARANTEED. CUT THIS ADVERTISEMENT OUT AS IT MAY NOT APPEAR AGAIN.
Mention this paper.



The Public Want

Their seed fresh
and true.

Would they not be most likely to obtain such by buying
directly from the grower? I can buy seed at half
what it costs me to raise it, but could not sleep sound
should I warrant seed of this class. For the same
reason I make special effort to procure seed stock
directly from their originators. You will find in my
new seed catalogue for 1890 (sent free) the usual
extensive collection (with the prices of some kinds lower
than last season) and the really new vegetables
of good promise. You should be able to get from me,
their introducer, good seed of Cory Corn, Miller Melon,
Hubbard Squash, All Seasons and Deep Head Cabbages and
many other valuable vegetables, which I have introduced.
JAMES J. H. GREGORY, Marblehead, Mass.
Mention this paper.

The Dingee & Conard Co's ROSES, HARDY PLANTS, BULBS and SEEDS.

Largest Rose Growers in America.



65
Large
Rose Houses.

NEW and RARE FLOWER AND VEGETABLE SEEDS

Goods sent everywhere by mail or express. Safe arrival guar-
anteed. If you wish Roses, Plants, or Seeds of any kind, it will
pay you to see our New Guide before buying. Send for it—free. Address
THE DINGEE & CONARD CO., ROSE GROWERS and SEEDSMEN, West Grove, Pa.
Mention this paper.

10 Pkts. FLOWER SEEDS 10c. 5 Pkts. VEGETABLE
Seeds 10c. Cat. Free. J. J. Bell, Windsor, N. Y.

CHOICE STRAWBERRY PLANTS
Illustrated and descriptive catalogue free. Send for it.
W. F. ALLEN JR., ALLEN, MARYLAND.

BEEES AND HONEY.

Send to the Largest Bee-Hive Factory in the world
for sample copy of **CLEANINGS IN BEE CULTURE** (a
\$1 illustrated semi-monthly),
and a 44 pp. illustrated Catalogue
of **BEE KEEPERS' SUPPLIES**. Our
ABC of Bee Culture
is a cyclopedia of 400 pp., and 300 cuts. Price \$1.25
Mention this paper. A. I. ROOT, Medina, O.

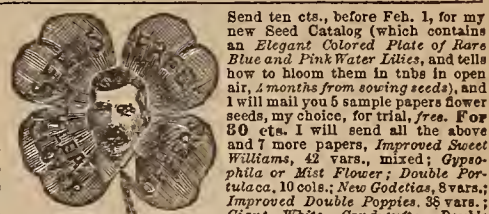
CURRENCY of ye Olden Time.
1840 Bill of 1778, 1 \$5 Bill of
1777; 1 \$10 Bill of 1776; 1 \$6 Bill of 1776; 124 Shil-
ling Bill of 1775; 1 \$5 Bill of 1771; 1 \$3 Bill of 1775;
1 20 Shilling Bill of 1690. We will send the 8 bills by mail
for 10 cents. HOME NOVELTY CO., Providence, R. I.

ASTHMA CURE FREE!

HIMALYA (Kola Compound). A Wonder-
ful Botanical and Medical
Discovery. One of the new tropical plant
products from the lower valley of the
Congo river, West Africa. A Sure Cure
for Asthma in every stage and form. Im-
mediate Relief and a Positive Cure Guar-
anteed. IT NEVER FAILS. 7,400 Cures on
record. We send HIMALYA Free for Trial
to Every Sufferer. Send your name, age
and postoffice, and we will send you a
case of HIMALYA Free by Mail. All we ask
in return is that when cured yourself you
will recommend it to others. Address the
ASTHMA SPECIFIC CO. 134 Vine St. Cincinnati, Ohio.
Mention this paper.

DEAFNESS & HEAD NOISES CURED by
Peck's INVISIBLE TUBULAR EAR
CUSHIONS. Whispers heard, Com-
fortable, Successful where all Remedies FAIL. Ills. book &
proofs free. Address F. HISCOP, 853 Broadway, New York.

AGENTS!! MEN!! BOYS!!!
with experience of no experi- of 15 to 18 years
ence averaging \$40 once average are making \$2
to \$50 per week. \$20 to \$40. to \$5 per day.
with our new invention. It sells itself. Send 25c.
in stamps for sample, or 2c stamp for circulars.
SAFETY FASTENING CO. 504 V. Inc. St. Cincinnati, O.



Send ten cts., before Feb. 1, for my
new Seed Catalog (which contains
an **Elegant Colored Plate of Rare
Blue and Pink Water Lilies**, and tells
how to bloom them in tubs in open
air, 2 months from sowing seeds), and
I will mail you 5 sample papers flower
seeds, my choice for trial, free. For
80 cts. I will send all the above
and 7 more papers, Improved Sweet
Williams, 42 vars., mixed; Gypso-
phila or Mist Flower; Double Por-
tulaca, 10 colors; New Godetias, 8 vars.;
Improved Double Poppies, 38 vars.;
Giant White Candytuft; Double
Asters, 35 vars. For 50 cts. I will send Catalog and 20 papers,
all the above and 8 more, amounting to \$2 at regular rates, viz.:
Large fl. Phlox, Pansy Park Prize Strain, 30 vars.; Dwarf Sweet
Alyssum; German Pansies, 50 vars.; Annual Chrysanthemum; New
Amaranthus Splendens; Double Gaillardia, 8 vars.; Japan Pinks,
50 vars.; Double English Daisies, 8 vars. 15 First Prizes awarded
me on above strains by Mass. Hort. Soc. Euphorbia hetero-
phylla the New Mexican Fire Plant, or Painted Leaf, is the most
elegant of all annual foliage plants; 3 feet tall, very branching,
leaves 3 inches long, dark green, those on the ends of branches in
clusters and blotched with scarlet. Ipomoea Setosa the
new Brazilian Morning Glory or Day-blooming Moon Flower is the
most ornamental of all annual vines, climbing 8 feet with immense
leaves, the above 50c. lot covered with reddish hairs; flowers 3
inches across, rosy pink, borne freely in large clusters. GREAT
SPECIAL OFFERS!
The Catalog price of these
genuine new plants is 50 cts.,
but I will send a pkt. of both
absolutely free to all
who order the above 50c. lot or
will add a pkt. of Fire Plant,
gratis, to each 30 ct. order.
L. W. GOODELL, Seed Grower, Pansy Park, Dwight, Mass.

I CURE FITS!

When I say cure I do not mean merely to stop them
for a time and then have them return again. I mean a
radical cure. I have made the disease of FITS, EPILEPSY
or FALLING SICKNESS a life-long study. I
want my remedy to cure the worst cases. Because
others have failed is no reason for not now receiving a
cure. Send at once for a treatise and a Free Bottle
of my infallible remedy. Give Express and Post Office.
H. G. ROOT, M. C. 183 Pearl St. New York.

MARION WALKER.

I wish to employ a few ladies on salary to take charge
of my business at their homes. Light, very fascinat-
ing and healthful. Wages \$10 per week. Good pay for
part time. References given. Address with stamp,
MRS. MARION WALKER, Louisville, Ky.

THE BEST DOLLAR ATLAS PUBLISHED

The Peerless Atlas of the World con-
tains larger and better maps of the
principal states than atlases costing
\$10.00. Colored County maps of all the
States and Territories. Latest railroad
maps. Sent to any address, postage paid,
for only \$1, including this paper one
year. Agents make money. Write for
confidential terms.

BURPEE'S FARM ANNUAL
BEST SEEDS
W. ATLEE BURPEE & CO., Philadelphia, Pa.
handsomely illustrated with colored
plates painted from nature, tells all about the
including **RARE NOVELTIES** of sterling merit,
which cannot be obtained elsewhere. Its mailed FREE
to all who want really first-class Warranted Seeds.

Smiles.

LOOKING FORWARD.

Oh, the men they won't cheat, and the men
they won't kill,
In Bellamy's times;
And the women won't flug half the bread in
the swill,
In Bellamy's times.

And there won't be a tramp who will beg your
"old clothes,"
In Bellamy's times;
Nor a hand-organ man who will grind out his
woes,
In Bellamy's times.

And the darkey won't lift little chicks from
their perch,
In Bellamy's times;
And the renter won't leave stupid men in the
lurch,
In Bellamy's times.

And there won't be a crank, and there won't
be a shirk,
In Bellamy's times;
For the fools will be dead and the lazy will
work,
In Bellamy's times.

And the men they won't drink till they're off
on a booze,
In Bellamy's times;
For they will take a small glass, and "can stop
when they choose," (!)
In Bellamy's times.

And a man won't elope with his neighbor's
fair wife,
In Bellamy's times;
And the girls they won't flirt, you can bet
your dear life,
In Bellamy's times.

And they never will send a poor wretch to the
"pen,"
In Bellamy's times
For they won't have a place to incarcerate
men,
In Bellamy's times.

But if some wretched man should be tempted
to kill,
In Bellamy's times,
Why, the doctors would cure his disease with
a pill,
In Bellamy's times.

And the people will live so contented and
sweet,
In Bellamy's times;
For contention and sin will be quite obsolete,
In Bellamy's times.

And the heart will be stripped of all selfish-
ness then,
In Bellamy's times;
And a man will exist for his dear fellow-men,
In Bellamy's times.

For a something divine will descend from
above,
Ere Bellamy's times,
To convert naughty men into angels of love,
Ere Bellamy's times.

—Chicago Inter-Ocean.

A TEXAS HORSE TRADE.

THERE is a colored man in Austin, Texas, by the name of Sam Johnson. He has some money which he has made trading horses, at which business he is an expert. One day Judge Peterby saw Johnson trading with an itinerant horse dealer. Having some curiosity to know how Sam came out in the trade, he asked him:

"Did you sell that fellow your horse?"
"I did, boss, for a fac."
"How much did you get?"
"Twenty dollars."
"Only twenty dollars! Why, you are a fool. That's a valuable horse."
"Lemme tell you somethin', boss. Dat boss is lame."

Judge Peterby happened to meet the horse trader afterwards, and said to him:
"So you paid twenty dollars for that horse?"
"Yes, I paid twenty dollars to the darkey. It's a pretty cheap horse."

"You have been swindled. The horse is lame."

"I know the horse is lame, but it don't amount to anything. He limps because he has not been properly shod. As soon as I take the shoes off of him he will not limp a particle. I wouldn't take a hundred dollars for that horse."

Half an hour afterwards Judge Peterby met Sam.

"Look here, Sam, you were swindled, after all, in that horse trade. The lameness of the horse is caused by his not being properly shod."

"I knows he ain't properly shod. I had him shod dat way on purpose, so as ter make dat hoss trader believe dat he was lame from dat cause, but de troof an', dat he is lame, sure enough, and he am gwinter stay lame. He

neber will be wuff nuffin. Heah! heah! How I fooled dat hoss trader."

The same evening Judge Peterby saw the horse trader at the railroad station. He was just about to leave on the train for Dallas.

"That horse is really lame. Sam has got away with you, after all," said Peterby.

"That all depends on circumstances. I think I can cure that horse; but if I don't I'm not out anything," replied the horse dealer, grinning. "Ask Sam after he has tried to change that twenty-dollar bill I gave him for the horse," said the horse dealer, as he climbed into the car.—Texas Siftings.

HIS SEASON OF MOURNING.

Neighbor—"Mr. Skrimp, I have sad news for you, terribly sad news."

Skrimp—"Hev' ye? What mout it be?"

Neighbor—"Your wife, in attempting to ford the river this morning, was drowned."

Skrimp—"Hump, that is sorter bad ' kinder unexpected, too."

Neighbor—"Yes, it's bad. She missed the road, someway, and got into deep water, and she and the horse were both drowned."

Skrimp—"Great geewhilkens, man! you don't mean ter say the hoss wuz drowned, too?"

Neighbor—"Yes."

Skrimp—"Wall, by jingoes, that is er heavy loss. That air hoss wuz wurther hundred dollars clean cash, an' ther ole 'oman knowed hit. 'Peers like women folks is most dog-gone keerless. Dog-gone, neighbor, but the loss o' that air hoss is powerful hard ter b'ar up ag'in, shore."—Drake's Magazine.

SOMETHING NEW IN WEDDING PRESENTS.

We learn from a valued Kansas exchange which comes to us weekly that an important wedding took place there recently, the eldest son of the popular justice of the peace of the village marrying the youngest daughter of another prominent citizen. This is not remarkable in itself, nor, perhaps, were the wedding offerings, though they are worth passing mention. "Among the many beautiful and costly presents to the happy couple just launched upon the sea of matrimony"—we quote directly from our contemporary—"were a fine double-barrelled shotgun from the groom's father and an excellent shorthorn cow, a remembrance from the bride's mother. Jim was already possessed of a good pointer dog, so he is now well fixed for housekeeping."—New York Tribune.

WHO WON THE BATTLE?

Two youths came out of the cyclorama the other night just ahead of me, and as I followed them down the avenue one of them observed: "That battle of Gettysburg must have been an awful thing!"

"You bet!" was the terse rejoinder.

"Glad we went."

"So'm I."

They walked a few steps in silence, and then the first one suddenly stopped and exclaimed: "What fools!"

"Who?"

"We."

"Why?"

"We never asked nobody which side licked."—St. Louis Republic.

THE USUAL WAY.

Omaha Dame—"I have come on a sad mission, my dear, prepare yourself for terrible news. Oh, how my heart goes out to you!"

Sweet Girl—"Mercy on us! Has that dress-maker spoiled my wedding suit?"

Omaha Dame—"Worse, dear, far worse. The young man you intended to wed came to our house last night in a state of beastly intoxication, and I have just found out that he has been for years a confirmed sot."

Sweet Girl—"Horror! Don't for the world breathe a word about it. If pa should hear that he wouldn't let me marry him."—Omaha World.

NO OFFENSE.

Big Dark—"Niggah, you's 'r fool!"

Little Dark—"Do yo' call me 'r fool?"

Big Dark—"Dat's what 'r sed!"

Little Dark—"Yo' do?"

Big Dark—"Ise call enny niggah 'r fool what acks ilke yo' do."

Little Dark—"Huh! Den yo' call enny niggah 'r fool? Den I can't considah dat pussed-el. Good day."

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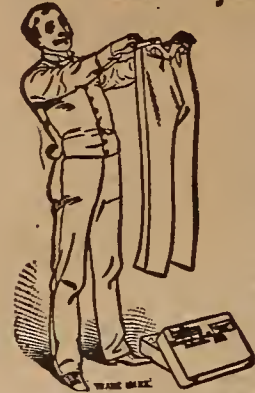
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20 PAGES.

EASTERN EDITION.

VOL. XIII. NO. 8.

PHILADELPHIA, PA., and SPRINGFIELD, OHIO, JANUARY 15, 1890.

TERMS {50 CENTS A YEAR.
24 NUMBERS.

The Circulation of FARM AND FIRESIDE
this issue is

250,400 COPIES.

The Average Circulation for the 24 issues of
the year 1889, has been

240,650 COPIES EACH ISSUE.

To accommodate advertisers, two editions
are printed. The Eastern edition being
100,100 copies, the Western edition
being 150,300 copies this issue.

Current Comment.

THE following is from the vigorous ap-
peal of the Worthy Master of the
National Grange:

"What's the matter with the farmers?"
Are they at last shaking off the lethargy of
years? Do they at last realize that "he who
by the plow would thrive, must either hold,
himself, or drive?" Have they learned that
there are plow-shares not made of steel or iron,
which must be guided by the master's hand?
If so, then at last "day dawns" for the farmer.
The night has been very dark, and the way
hard to find; but there is yet hope. The farm-
ers are moving not in individual strength—
but in solid columns. The army of agricul-
turalists will henceforth cultivate—among other
fields—the field of politics. Not by the forma-
tion of a farmers' party, distinct from other
classes, but as a body composed of nearly one
half the citizen sovereigns of this great re-
public.

If agricultural interests or agriculturists are
ignored or neglected in the future by any
political party, we shall want to know the
reason why. The farmers have been cajoled
and relegated to the rear too long; and their
interests have suffered too much, to admit of
any more of the stale and threadbare "taffy"
which has been ladled out to us, lo, these many
years, by the average politician.

We have heard of the "independent life of
the farmer," that he is the "bone and sinew of
the land," until we are tired, very tired. We
have learned that this is a representative
government, and that the interest not repre-
sented is sure to get "left." Hence we shall
ask, not a monopoly of the law-making pow-
er, but a fair share of representation in future
legislative bodies. We shall ask that in the
appointment of men to positions of honor
and trust, that farmers be not forgotten—or
simply thrown a "sop," which the place hunt-
er does not want. We shall ask the control of
boards having in charge institutions devoted
exclusively to agricultural interests.

In making these demands, we shall not com-
promise the dignity of American citizenship,
but only ask for ourselves what we are willing
to accord to others.

Patrons, "forward, guide right," is the order
for the year. In this forward movement our
veteran organization, the Patrons of Husband-
ry, must be found in the front rank. Not
wasting its energies in fighting imaginary
foes, nor in the vain effort to change the laws
of trade and commerce, established after years
of experience; nor foolish warfare upon legiti-
mate business and reasonable profits; but by
correcting abuses which have crept into busi-
ness life in various ways, which unnecessarily
burden the producing classes.

"We must have an honest share for wife,
and home, of what the harvest yields." Cor-
porations, syndicates, trusts, and vast accumu-
lations in the hands of individuals, must be
so hemmed in and surrounded by wise and
just legislation, properly enforced, that the
rights and interests of all classes shall be se-
cure.

Farmers, in this righteous crusade we want

your help. No other farmers' organization
can offer you the advantage of over twenty
years' experience in organized methods. We
make no extravagant promises. Our methods
are not startling or revolutionary in their
character. We shall co-operate with all who,
by legitimate means, are seeking to secure to
honest labor a fair reward. But we make no
entangling alliances which may lead to future
disaster. We do not offer you miraculous or
unusual power; but we do show you how to
make your power available for the protection
of your interests.

We have a great national farmers' organiza-
tion, well drilled in the work which must be
done, if farmers are to remain owners of their
homes, and be worthy of the name of Ameri-
can citizens. We are armed and equipped for
the people's battle. Marching orders have
been issued. The noise of the conflict between
wealth producers and those who, by "ways
that are dark," are absorbing the millions that
should go to bless and brighten our homes,
will soon be heard on every hand. We shall
put every available man into active service.
And now we want 500,000 new recruits—brave
men and women—from the farms of our coun-
try, who are willing to help us in the effort to
secure only what is ours by right. Shall our ap-
peal be in vain? A subordinate Grange should
be organized in every township; a Pomona
Grange in every county, and then, with ex-
tended lines, with high hopes, and with brave
hearts, we shall wage a successful warfare
against some of the crying evils of the day.
And our victories shall be blessings to every
home and legitimate industry of the land.

JUDGING from the tone of some articles
that have lately appeared in our ex-
changes, and of a few letters received,
it would seem that the discussion that has
been going on about the abandoned farms
in some parts of New England had given
the writers the erroneous impression that
agriculture was about to be abandoned
altogether in New England. One corre-
spondent goes so far as to say that they
might as well try to resuscitate an Egyp-
tian mummy as an abandoned farm in
New England, and that manufacturing as
well as farming will cease there. Prob-
ably it will, some day, but not in our time.
It is true there are several hundred desert-
ed farms in New England, but there can
also be found some of the model farms of
the country. Their owners have adapted
their system of farming to the changes
that have taken place, and they are getting
along about as well as farmers in many of
the more favored parts of the country.
For a long time to come yet there will be
room in New England for some branches
of farming, in spite of climate, soil and
western competition.

The rapid settlement and development
of the West has had much to do with the
deserted farms of Vermont and New
Hampshire. And the competition of the
West, with its natural advantages, has
been greatly strengthened by discriminat-
ing transportation rates, for which rail-
road corporations are responsible. It is
said to cost no more to ship butter to Bos-
ton from Iowa than from Vermont. Cheap
transportation from the West and high
local rates on the railroads in New En-
gland, have placed farmers there under a
great disadvantage. And this railroad
discrimination hurts the manufacturers as
well as the farmers. Leading manufac-
turers testify that high freight rates are
injuring the manufacturing interests of
New England. The principal cause for

the deserted farm and the abandoned fac-
tory may be found in the arbitrary action
of railroad corporations.

Western competition affects all the
eastern and middle states. Before us
is a letter from a subscriber in east-
ern Pennsylvania. After telling what
branches of farming pay in his locality
and what do not, he adds by way of ex-
planation that the West is shipping beef
and pork to their markets cheaper than
they can produce it. But he said nothing
about the farmers there abandoning their
farms on that account; he did tell what
lines of farming still paid, and it is safe to
say that they will all find it out in time.

AN old subscriber in California writes
that he is much interested in what
was recently said in these columns
about the cash co-operative plan of buy-
ing adopted by many farmers in Michi-
gan. His own county being very thinly
settled, the same plan cannot be followed,
but the dairymen and farmers send their
products direct to the great market of San
Francisco, and buy their supplies there in
large quantities, and thus save the profits
that would otherwise go to middlemen.
Our friend goes on to say that the great-
est trouble with a farmers' organization
dealing with merchants at reduced rates
on a mutual agreement, is that the latter
bring in false bills of goods to show to the
committee appointed to look over the
books, and in this way still make their
old-time profits.

In our opinion, the objection raised is not
as forcible as it may appear to some at first
sight. Human nature is the same the world
over. Merchants, as a class, are just as
honest as other men, neither less so nor
more. But it seems to us, if ever a mer-
chant found honesty to be the best policy,
whether he was honest from principle or
not, it would be in this case. If he is un-
der a fair contract to sell goods for spot
cash at reasonable profits, and to have the
exclusive trade in his line, he could ill
afford to run the risk of detection in vio-
lating that contract and losing his whole
business. Self-interest should keep him
endeavoring to hold fast to a good thing
by fair and honorable dealing with his
customers. He has the strongest induce-
ments to be honest and to faithfully fulfill
his contract to the letter. As to the false
bills, their detection is not a difficult mat-
ter. Nowadays we have daily market
reports from the great business centers of
the country of the wholesale market prices
of all the staple and most fancy goods
kept in ordinary stores. To keep thor-
oughly posted about the wholesale prices
of all goods purchased is the privilege and
duty of the committee appointed by the
farmers' club or association to look over
the books of the merchants with whom
they are dealing. If the committee do
their duty, few false bills could escape de-
tection. If the committee is incompetent,
ashrewd and unprincipled merchant could
take advantage of them, it is true; but
even then the customers would not be
worse off than they were under the old way.
If the members of the committee are wide-
awake men, there is very little danger of
an attempt being made to cheat them in
this way.

The trouble with too many farmers is
that while they are anxious and willing
to share all the advantages to be derived
from a co-operative system of buying, they
want it adopted and carried out without
any labor or effort on their own part. But
they might as well make up their minds,
first as last, that unless they help them-
selves nobody else will help them, and
everybody will try to take advantage of
them. Our friend remarks that they could
succeed easily enough if all would be true
to themselves and to each other.

ARE farmers' interests as jealously
guarded in legislative halls as
other interests? Manifestly not.
And the worst of it is, the farmers them-
selves are to blame for it. In the first
place, they are not properly represented in
the legislatures; that is, too few of the
representatives are interested directly or
indirectly in agriculture. It is the fault
of the farmers themselves that they do
not select, vote for and elect men who will
jealously guard their interests. Then
again, farmers are entirely too indifferent
to what is going on in the legislature when
it is in session. Bills are introduced, dis-
cussed, passed, become laws, and go into
effect before they realize what has been
done. Even the legislatures, constituted
as they are at present with few farmer
members, would do much better if the
farmers would interest themselves more
in looking after them. The members are
a good deal like a lot of boys sent to do
some work—their employer must not only
tell them what to do, but he must go along
with them and see that they do it. Re-
cently, a member of the legislature, who
is willing and anxious to aid farmers in
securing any just legislation they desire,
was told of an amendment to a certain
law drawn up at a farmer's institute, and
the resolution adopted unanimously in its
favor. "Will any of them be on hand
during the session of the legislature to
see it through?" he asked. "When any
other class of men are interested in hav-
ing a bill passed, they are on hand to look
after it."

There was probably never a time when
the farmers and wage-workers of this
country were more thoroughly aroused to
the fact that they are not obtaining their
just share of the rewards of labor than at
the present. Legislation will not cure all
the ills that agriculture is heir to, but it
can do much. The necessary legislation
can be easily obtained, if the farmers will
only unite. That is the hard part of it,
to get them to organize. Organize, and legis-
latures and Congress will listen respect-
fully, and hasten to do your bidding. In
our opinion, the best plan of organization
of farmers for the purpose of securing
whatever legislation they desire or need,
is the formation of a non-partisan league
in every state. Upon its broad platform
can stand the farmers of all parties and
associations. And if a legislature does
not heed its just demands, the league can
soon make one that will. But organiza-
tion is the great necessity, the plan is
secondary. Adopt willingly the plan that
suits the majority. The non-partisan
farmer's league is simply mentioned as
simple and effective.

FARM AND FIRESIDE.

ISSUED 1st AND 15th OF EACH MONTH BY
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Address all letters to
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We believe that all the advertisements in this paper are from reliable firms or business men, and do not intentionally or knowingly insert advertisements from any but reliable parties; if subscribers find any of them to be otherwise we should be glad to know it. Always mention this paper when answering advertisements, as advertisers often have different things advertised in several papers.

COUNTRY DOORYARDS.

A PAPER READ AT THE STATE HORTICULTURAL MEETING
IN COLUMBUS, OHIO.

COUNTRY dooryards, as a rule, lack distinctive character, carefully planned and well considered outlooks, privacy, comfort and beauty. This, doubtless, sounds like a sweeping indictment, but it is nevertheless true. Aside from the fact that many rural dooryards are kept in a fair state of cleanliness and tidiness, very little can be said in their favor from an artistic point of view. As a rule, farm homes are in the midst of a mass of deciduous trees, trimmed to a uniform level of the chamber floors, hiding what may be beautiful in the architecture of the house and shutting out all outside views, and at the same time giving no privacy save what is obtained in a small space immediately behind the dwelling and other buildings. Few people would be satisfied to have their house all thrown into one room, so that the visitor in the parlor could see all the work of the cook in the kitchen, or the chambermaid in the bedroom, yet this is essentially the way dooryards are managed.

Except for numerous naked tree stems, sometimes slightly enlarged with a coat of whitewash, the dooryard might just as well be a meadow or a parade ground. Sometimes an open fence separates the front from that portion devoted to cider boiling, butchering and soap making, but there being no especial beauty to such a fence and no added privacy, one is led to wonder why it is maintained. Yet from the chamber windows of these naked dooryards one can generally see but a few feet, and in thousands of country homes it is never necessary to draw a curtain at night, for no prying eye can penetrate the screen of leaves and twigs everywhere confronting the windows. The general plan of decorating country homes ten feet above the grass is much like that of the African chief, who thought himself in full dress when he wore nothing but a paper collar and a plug hat. Viewed merely as a question of economy, it is the poorest possible way of keeping home grounds all trimmed to a state of nudity resembling a hop-yard or a young orchard, just as it would be poor economy to have the parlor and kitchen in one room.

The owner of a village lot has a great advantage in that he does not attempt to make his surroundings all uniform. He improves (if so inclined) the front yard to the highest extent of the art; velvet lawn closely shaved, neat flower or foliage beds

and beautiful shrubbery are in the front yard, while the necessary accessories of every-day life and things of daily use are snugly corralled in the back yard, detracting nothing from the beauty and neatness of the front. If nature furnished no material save the deciduous tree or the product of the saw-mill for giving character and privacy to a dooryard, it would be worse than folly to urge a change; but, fortunately, we have provided us a material so eminently adapted and so beautiful withal, that it seems criminal not to use it. I refer to the coniferæ, commonly called evergreens. I need not describe the trees, for most of you are familiar with them and their manner of growth, from the tiny seedling of a span to the giant of half a century's growth; nor need I urge upon you their wonderful fitness for the object proposed. Impervious to sight and nearly so to wintry winds, most beautiful amid the snow when the deciduous growth is bare and skeleton-like, I cannot understand why so few country people use them. Placed in proper locations, they break the force and take the sting from the coldest winds; they separate unsightly and disagreeable objects and views from the beautiful ones, and furnish most excellent and natural backgrounds for all other trees, herbs and flowers. Often the planting of a space between two buildings or the planting of the back angle of a dooryard with evergreens (see cut Fig. 1) will render a large space comfortable and nearly quiet in the most tempestuous winter weather, adding in comfort many times the cost of trees and use of land, besides furnishing a nucleus for further desirable and beautiful planting. The judicious planting of evergreen groups in connection with short hedges or windbreaks, according to the

refuge behind a group on a windy winter's day, can appreciate the change that would result. As in this case, the grass is kept short, the ground being simply used for ornamental purposes, the use of a small portion would crowd out no other crop, and no charge could be made for ground rental.

A single row would do, but it might be objected to if it came out full height to the street fence and hid the view up the street from the back portion of the dwelling. A prettier way would be to make the back end of the screen broad and tapering to a point next the street, much like the upper portion of an exclamation point. Then the broader portion could be planted to large trees, and taper down with lesser kinds until at the street fence the screen was but four or five feet high. Such a plantation would be worthy of the place, and make a fitting finish to the yard, which, on this side, looks bare and unsatisfactory.

[Concluded in next issue.]

AGRICULTURAL CHEMISTRY.

From the Standpoint of the Practical Farmer.

BY JOSEPH (TUISCO GREINER).

No. 25.

PHOSPHORIC ACID IN BONE.—The chief sources of phosphoric acid are four in number; namely, (1) bones of animals; (2) phosphate rocks, which are the fossil remains of prehistoric marine animals; (3) phosphatic guanos; (4) the mineral apatite. Of these, fresh animal bones rank first in people's esteem, although there can be no doubt that phosphoric acid in a soluble condition has exactly the same value whether derived from fresh bones or from any other source. Sometimes the agricultural chemist concedes to the fresh bone phosphate more than is just; and

wonder that plants always know how to get hold of some of this phosphoric acid almost from the beginning, nor that the effect of this bone application is usually quite lasting; of course, all the slower and more lasting the coarser the bone was ground. Its nitrogen also acts in a similar manner; its effect is slow and lasting. Whenever the soil needs phosphoric acid, and little else, and the crops can be given their own time to use it—as winter grains, fruit trees, etc.—finely ground bone may

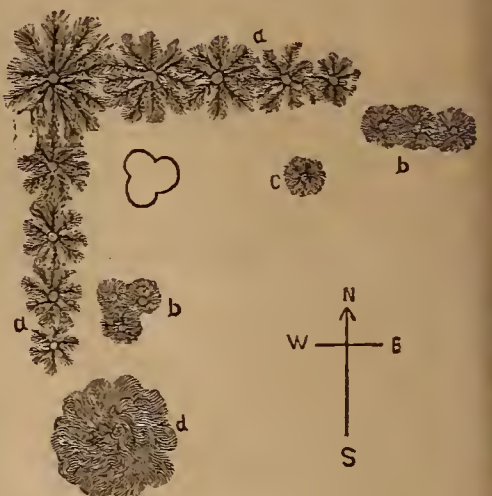


FIG. 1.

Showing a north-west corner planted to evergreens and ornamental shrubbery. a, a, hemlock or spruce screen; b, b, groups of deciduous shrubbery; c, golden retinispora, an evergreen shrub; d, purple beech.

be used to good advantage. An average quality is worth \$30 or more per ton, and usually can be bought at about that price. It is a simple bone phosphate of lime.

Suppose, however, we must have the phosphoric acid in a more immediately available form. Thus we find it in dissolved bone, which is bone treated with sulphuric acid. This latter tears one third of the lime out of the combination, and unites with it to form sulphate of lime, commonly called plaster, leaving an extra portion of the phosphoric acid attached to each remaining portion of lime. In this form it is called a double or bi-phosphate of lime. That portion of phosphoric acid which was torn out of its combination with lime by the sulphuric acid is very loosely attached to the remaining lime, and for this reason in a soluble or available condition. The other portion of phosphoric acid, of course, remains insoluble.

The treatment with sulphuric acid may now be continued. Another portion of lime is then taken out of its original combination, and forced into a union with the sulphuric acid to sulphate of lime, so that three portions instead of one, as originally, are left for each portion of the remaining lime to take care of. This attachment naturally is still less permanent and strong than in the case of the bi-phosphate, and the two free portions of phosphoric acid are always ready to leave the lime combination on short notice, and either give themselves up to dissolution for the purpose of entering plant structure at once, or to fall in with some stray particles of lime in the soil, or some other base, and thus "revert" slowly to a bi-phosphate, or even a simple phosphate. The result of the continual sulphuric acid treatment is called, by fertilizer men, "superphosphate," or acid phosphate. In this we have most of the phosphoric acid in a soluble form, or immediately "available," and just in this form it exists in our high-grade fertilizers. We have no means of counteracting the natural tendency of the free phosphoric acid to "revert" when applied to the soil. But this is not usually a serious matter. The "reverted" phosphoric acid is again subject to chemical action and decomposition in the soil, and therefore may well be considered available, even if not immediately soluble. Under average circumstances the reverting process is but slow, and the crops have a good opportunity to help themselves to the free article. The presence of free lime in the soil, of course, accelerates the process of reversion, and where superphosphate is used, or to be used, lime should not be applied.

We have seen that the sulphuric acid treatment, by which the phosphoric acid is made immediately soluble, also results in the formation of sulphate of lime. Consequently, the more soluble and there-

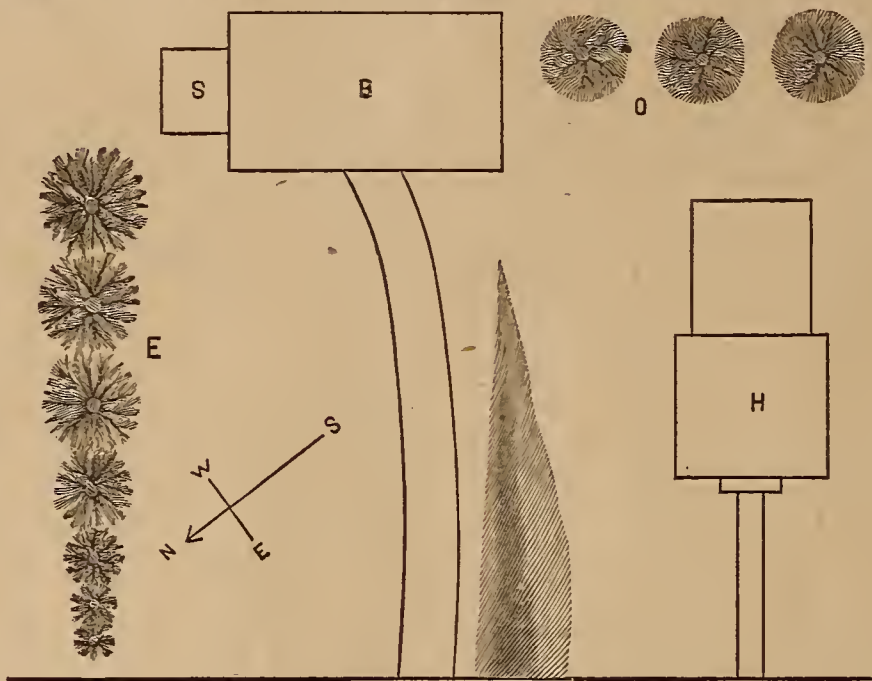


FIG. 2.

O, orchard. H, house. B, barn. S, silo. E, windbreak.

need of the place, the exposed points or varied location of the buildings, will do more to give a specific and differing character to country homes than any other equal expenditure of time and money. One or two examples may serve to illustrate what I mean. On the western side of a road (see cut, Fig. 2) running from south-east to north-west, is a fine residence costing several thousand dollars. Back of the house is an orchard, and north-west of the orchard and joining it is the large barn, the front of which is on a line parallel to the street and even with the back of the house. The barn, with a silo addition at its north-west end, is probably one hundred feet long, and has in front of it a grassy lawn about eighty feet wide, reaching to the street. This forms part of the dooryard, and all is kept in excellent shape and the grass cut short. The place lies to the east of a large tract of swamp and meadow, and the north-west winds sweep, nearly unchecked, for two or more miles. The orchard and barn furnish protection from the south-west, but from the north-west there is no protection. How easy to plant evergreens from the corner of the silo to the street, and turn the beautiful grass plot in front of the barn into a miniature paradise in a howling day, and dispense with banging doors and all the annoying effects of rushing blasts. None but those who have evergreen screens, or have taken

practical results must always be the first criterion.

The bones used for the manufacture of fertilizers come chiefly from slaughter-houses and butcher-shops, or are picked up on the prairies and elsewhere. Fresh bone has nearly one half of its weight of organic matter—that is, gelatine, water, etc.—and one half its weight phosphate of lime. Nearly one half of the weight of the latter is the phosphoric acid we are after, and this therefore makes out from 20 to 25 per cent of the fresh bone.

Now, bones are treated in a variety of ways to fit them for fertilizer. Often they are steamed, the gelatinous matter extracted for glue, the remainder dried and ground. This process, of course, deprives it of nitrogen, and leaves little besides the mineral elements in it. Another way, and a good one, is to crush and grind the fresh bones. This gives us the "ground bone," "bone meal," "bone dust" and "bone flour," which contains about 20 per cent of phosphoric acid and 2 to 3 per cent nitrogen. Most of the phosphoric acid is insoluble; that is, in its fixed combination of phosphate of lime, same as it was in the whole bone. Its fine state of division, especially as it appears in bone flour, exposes it to contact with air, moisture, carbonic acid and other influences in the soil, and offers to it many chances of new chemical alliances, so that we need not

fore more valuable the phosphoric acid in bone phosphate, the greater is the quantity of sulphate of lime or plaster contained in it. The absence of the "plaster" would simply signify that the phosphoric acid is in the insoluble form of phosphate of lime. Here it may be well to call attention to a very common misunderstanding. A farmer in my neighborhood recently told the agent who furnished him a high-grade fertilizer, that he felt morally certain the fertilizer was largely composed of plaster, or "adulterated" with plaster, as he termed it. He thought he had been cheated, and intimated that he could buy plaster cheaper under its proper name.

Any man who purchases a genuine, high-priced fertilizer, I mean one of honest make, and at an honest price, certainly also gets with it a quantity of sulphate of lime or plaster. A high-grade fertilizer or superphosphate could not be bought without it. But he gets this plaster virtually free of charge, in so far as the dealer only charges him for so much phosphoric acid, so much nitrogen and so much potash—if the fertilizer is a complete one—or if a dissolved bone simply, for so much nitrogen and so much phosphoric acid. The "plaster," that is, sulphate of lime, is thrown in, and in fact, the more there is of it, so long as all of it is only the legitimate product of bone and sulphuric acid, the better for the buyer.

The phosphoric acid in bones can also be made partially available by burning, either in open fire or in closed vessels. By the latter procedure we obtain what is called "bone-black." The result of burning bones is chiefly phosphate of lime, without nitrogen. To make it immediately soluble, however, it will still have to be treated with sulphuric acid, and we then get the "dissolved bone-black."

Sometimes the farmer has a chance to buy up old bones very cheaply, or to gather quite a lot from accumulated stock on the farm; and the question comes to him, in what way these bones can best be utilized? This question will be considered next.

BARB WIRE FENCE GATE.

I send you the description of an appliance for fastening a barb wire gate without pulling off one's arms and tearing one's clothes into shreds. In stretching your wire, let it run across the opening where the gate is wanted. Staple it fast to the gate-posts with extra long staples. Set your braces as usual, then cut off the wires at post just outside of staples. Staple the gate wires to 2x2-inch stakes with an oak 2x3-inch piece, B, at end of wires, with a small notch cut at upper end. Now cut two pieces of No. 16 plain wire, 48 inches long; fasten one to the bottom of the post, A, for bottom loop. Make a ring of the other, and with a staple fasten it to the top of

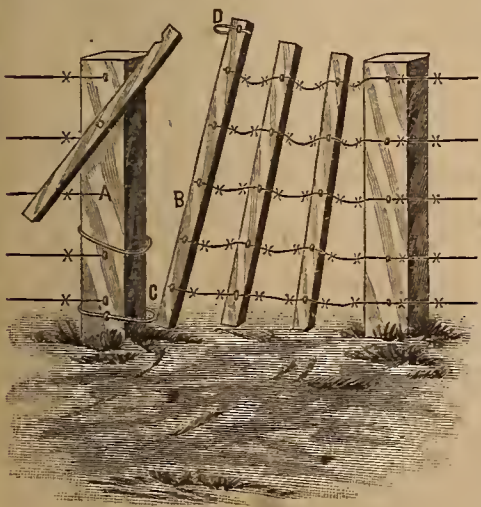


FIG. 3.

stake, B. Cut a piece of oak scantling 2x4, 40 inches long; cut a notch 1/2 inch deep, 2 inches from one end. Bore a 3/8-inch hole through the 2-inch way, 14 inches from the notch. Bore a similar hole through post A, 11 inches from the top, from outside to inside, or vice versa. Bolt the piece of 2x4 on the outside of post, with the notched side away from the gate. Run a piece of wire around the post and 2x4, and fasten with a staple on the outside of post about two inches above the end of the 2x4 piece. When closing your gate, set the lower end of stake, B, in loop, C, and draw the upper

end tight. Lower the upper end of lever (as in Fig. 3) so that ring, D, will pass easily over into notch. Straighten it up to its place, and fasten with wire at bottom.

W. H. WELLES.

SELL THE SCRUB SHEEP.

Sell the scrub sheep if they are not paying their way, provided you are able and willing to give the kind of care and feed that the more artificial breeds require. If you are not ready to give improved care, do not try improved breeds. They were improved by such improved care, and must have it, or by necessity go back to scrubs. These are stubborn, every-day facts that wide-awake men know by experience; better if it were by observation, since it costs so much less.

The time is rapidly approaching, we hope, when there shall be no need of scrub stock. But it must be when scrub stock

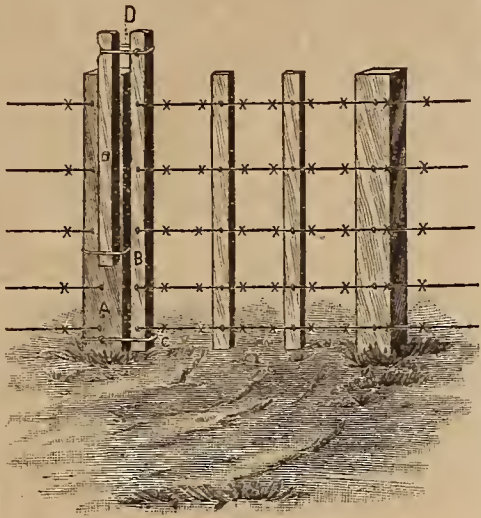


FIG. 4.

will not pay; when we shall have changed our ideas of what a pasture should be; when a field is not a good and sufficient place in which improved animals shall maintain themselves; when a field of weeds and briars shall not be looked upon as a perfect pasture. When we study what a proper pasture is, and secure it, then we may consider ourselves able to give improved care, feeds and pastures to improved sheep and other animals, and let the scrubs go. We must first be able to quit scrub care, then we may make improved care pay, whether we have pedigreed stock or not.

It is money we are raising stock for. Pedigree may and may not help us to do so. One breed that may suit another farm may not suit ours. The purpose for which a neighbor raises sheep may not suit our farm nor our way of doing. The only test is to make our business pay, our farm pay, our sheep pay. Theories will not do unless the practices are right, unless our economies are right. As long as we have men who are careless, or who have not the intelligence for improved care, just so long they ought to raise scrub stock, because it is all the kind of stock they can make any money out of, and if it pays them they are not ruined by it. They will fail if they attempt improved animals on scrub methods. This is not advocating scrub stock or scrub animals; it is claiming a fitness for all things.

Let us not forget or overlook the fact that there are regions so circumstanced and men so circumscribed that are only suited to the commonest grades of live-stock. All these changes come by education in agriculture and general economies. It is simply throwing money away to invest it in improved stock under the conditions named. It would be criminal, the meanest kind, to induce such a man as we can think of in south Missouri or southern Georgia to pay the lowest price for well-bred, pedigreed animals. Shall we continue to abuse that sort of a man for staying with his scrub cattle or hogs or sheep? By no means, since they are paying him well. To illustrate the point, I know men in southern Georgia and western Florida who have the sorriest-looking cattle an Illinois man ever imagined. They are thoroughbreds without a doubt. For three hundred years they have lived in those piney woods without care or breeding. They are as they were when imported by the Spaniards from Guinea. They will dress, when five or six years old, 450 pounds each. It sounds like a joke to say there is money in them, but there is, since

they have not cost their owners one single dollar per head. So of their swine, so of their sheep; and who would permit those men to venture in improved stock until they have intelligence and facilities for the change?

It ought not to pay to raise scrub stock in Illinois, Michigan or New York, but there are plenty of men in each of these states that do not make what they bought, for improved stock pays. Why? Because they have not the ability or intelligence to get the best results out of the animals. They have not learned how. They are scrub men, knowing only scrub methods, and must not change until they know better. As changes come, a spirit and necessity for grading up will come to those out-of-the-way places and behind-the-times-men, as it has in central Illinois within the last fifty years, to pushing, progressive men. No well-situated man in Illinois would acknowledge that he is raising scrubs of any sort. There are plenty of them, though, who have bred to high-priced sires for years and years, but by reason of poor methods, are always overstocked with shabby animals. They might as well have good scrubs, except for the name of it. It does not matter what a man professes or knows, if he does not practice so as to gain better results.

JOHN SMITH.

RAISE YOUR OWN COWS.

A half dozen good cows are worth a dozen poor ones. It takes as much food and care to keep a poor cow as it does a good one, and while the former barely returns enough at most to "pay her way," the latter returns a comfortable profit to her owner. Those farmers who are looking around for really good cows know how difficult it is to buy one, when found, at a price they can afford to pay. Yet they frequently keep "looking around" for several years, when they might, in the same time, have raised several choice cows themselves. Of course, it takes time to rear a good-sized herd of profitable cows, but this expenditure of time is only in lieu of the money expenditure absolutely necessary to purchase a desirable animal. As a farmer usually can spare the time better than he can spare the cash, it is easy to see what is the best course to pursue. There are but few farmers who do not now have at least one, two or three cows fairly good, which can be used as a start in improvement. Do not use a scrub bull merely because your neighbor happens to have him and charges nothing, but rather pay a fair price for a good, pure-bred one. Save all the heifer calves and carefully raise them. When they are about three years old, and less than four years from the time the improvement is started, you will have fine, young cows. Other calves will also be coming on, from them as well as from the original cows, and in five or six years there will be quite a herd; the common, unprofitable cows having been worked off to the butcher. Many a farmer wishes he had commenced five or six years ago. He does not think that he will likely say the same thing five or six years hence, yet does not commence now. Good, pure-bred bulls have now become so well distributed, that the use of one can usually be secured without much difficulty, while a good bull calf can be had from such stock, eligible to entry, for a comparatively low price. Enough can, as a rule, be counted on from neighboring farmers' herds to pay for his keep.—*American Agriculturist*.

WINTER EFFECTS OF UNDERDRAINAGE.

Some of the minor advantages of underdrainage assume great importance in winter. It is quite apparent upon observation that ground properly underdrained heaves much the less in winter. It is the expansion of the water in the soil, at the moment of freezing, that heaves the soil. Dry earth does not expand at any temperature. Draining protects the soil against an excess of water, and there is no excess of moisture, only capillary and hygroscopic moisture, to be expanded by freezing. The effect of the expansion of these is comparatively slight. This partly explains why, other things being equal, winter wheat succeeds best on underdrained ground. Underdrainage often prevents damage to the wheat in yet another

other way. Not infrequently waterstands on the surface of flat land, freezes into ice, and smothers the wheat. It is rare that an entire field is so damaged, yet sometimes large fields are altogether killed out in this way. But damage to patches, over which the water collects, is quite frequent. Underdrainage, which usually disposes of surface water, prevents smothering the wheat.

There are several material advantages in the winter spreading of stable manure and some other fertilizers. A respectable minority, if not an actual majority, of farmers would find such handling of manure the best, provided the loss from the flow of surface water could be avoided. Underdrainage at least largely reduces this flow; it carries the water through instead of over the soil. The water, on its way to the underdrains, carries the manure into the soil, where it is filtered out, instead of carrying it away. The water does not carry away so much of the soil or form so many gullies, something the farmers will surely appreciate whenever there is a thaw during the winter, and especially during the spring.—*American Agriculturist*.

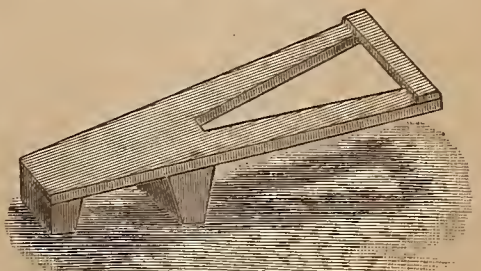
SUBURBAN LAWNS.

In the matter of lawns, I want particularly to speak of the homely grass patches about the farm and suburban houses of people of moderate means, and to suggest simple ways of caring for and improving them at a small expense. And, first, about the grass—the peculiar feature of a lawn—June grass, Kentucky Blue grass (*Poa pratensis*), is distinctively the American lawn grass. It is really more than that, for anywhere north of the gulf states we would have to fight hard to prevent this persistent and beautiful grass from taking possession of any spot where we could not subject it to the plow. I know of only one grass that can hold its own on a dry, light soil, such as is everywhere common, and, when possible, is preferred for the site of dwellings, against the June grass. Orchard grass spreads only by seeding, as it has no running root-stocks, but a tuft of it once in possession cannot be killed out by the crowding of other grasses. Such a tuft it is almost impossible to run a lawn mower over, and to dispose of it effectually the spade must be resorted to. On a close sod of June grass, however, it is difficult for the light seeds of orchard grass to get a hold.

As June grass will take possession at last, and is really the best grass, and the only one that will hold on where the soil is light, and there is much treading, it might be, and has been, said that we should sow it alone. Yet, though so persistent and prevailing, June grass starts rather weakly, and I believe that the ordinary lawn mixtures are best, although only white clover (and dandelion) will long remain where June grass has a chance to spread.—*Vick's Magazine*.

BOOT-JACK.

I send you a rough sketch of a boot-jack which has been in use over fifteen years, and has given good satisfaction. It is two feet two inches long, six inches wide at



the toe and slopes down to five inches in width at the heel. The cut will show where the cleats are nailed on. The slot in which to put the boot is eleven inches in length, four and one half inches wide at the toe and two inches wide at the heel.

J. B. HAGOOD.

INSECTS ON FRUIT TREES.

These pests are multiplying and every year their ravages increase. They destroy the apples, plums, cherries and peaches, yet they can be exterminated by judiciously spraying the trees. The Field Force Pump Co., of Lockport, N. Y., have just published a very instructive treatise on this interesting subject, which they will send free on application.

Our Farm.

MARKET GARDENING AS A BUSINESS.

BY JOSEPH.

Peter Henderson, the veteran market gardener, read a paper on this subject before the Massachusetts state board of agriculture, at their meeting December 3, 1889. His advice is usually good and to the point, and a few extracts can hardly be otherwise but welcome to our readers.

There are thousands of farmers, says Mr. Henderson, whose lands are near to the smaller towns, hotels, watering places and summer boarding-houses, where, if the farmer would devote a few acres to fruits or vegetables, or both, there is scarcely a doubt that every acre so cultivated would be much more profitable than if devoted to ordinary farm crops. In most cases, success would be proportioned to the quality of the land, but no one need hesitate to begin the cultivation of either fruit or vegetable crops on any soil that will raise a good crop of corn, hay or potatoes. The farmer, when he grows to supply a local demand, such as for hotels, boarding-houses, etc., has a great advantage in selling direct to the consumer.

When it can be done, select land that is level and well drained by having a gravelly or sandy subsoil, and not less than ten inches in depth of good soil. Look around the neighborhood and observe the farm crops; if these are not strong and vigorous, rest assured that the soil is not such as will answer for your market garden work. Again, get as near to your market as possible, and see that the roads leading thereto are good, especially if your market is a large city. The business of market gardening, though healthful and fairly profitable, is exceedingly laborious, from which any one not accustomed to manual labor would quickly shrink. The labor is not what might be called heavy, but the hours are long. No one should engage in it after passing middle life; neither is it fitted for men of feeble constitution.

The capital required for beginning market gardening in the vicinity of a large city should not be less than \$300 per acre for anything less than ten acres. The first year rarely pays more than current expenses, and the capital of \$300 per acre is all absorbed in horses, wagons, implements, sashes, manures, seeds, etc. If the capital is insufficient to procure these properly, the chances of success are correspondingly diminished. Above all, be careful not to attempt the cultivation of more land than your capital and experience can properly manage. More men are stranded, both on the farm and garden, in attempting to cultivate too much, perhaps, than from any other cause.

It has been the practice in the past to use hot-bed sashes almost exclusively for the purpose of forcing vegetables, or forwarding plants for use in the open ground. But of late years greenhouses are being largely used, both for the purposes of forcing lettuce, radishes, beets and cucumbers, as also for growing plants of early cabbage, cauliflower, lettuce, celery and tomatoes; and in either case, we believe that in well constructed greenhouses not only is the work better done, but that the saving in labor in three years will more than offset the greater cost of the greenhouses.

Mr. Henderson's method of plant growing will be spoken of at another occasion. The essayist ascribes the reason for the somewhat reduced yields on the market gardens in New Jersey to the crowded condition of the land, which does not allow giving the soil a needed rest by seeding to grass or clover, as is usually done on Long Island, etc. He believes that in a garden of fifteen acres, if one third is laid down in grass each year, and the balance kept under the plow, the gross receipts will be greater, and the profits more, than if the whole fifteen acres were under tillage; for less labor would be required, and manure tells better on sod land than on land under tillage.

Attention is also called to the high quality of manure from stables where imported peat moss is used for bedding. Such manure is thought to be worth twice as much as ordinary straw manure. No

doubt there are swamps in the United States composed of peat moss, which may some day prove a gold mine to their discoverers.

The ordinary stable manure, Mr. Henderson continues, is yet used almost exclusively by the market gardeners of Hudson county, N. J., and that, too, at the rate of seventy-five tons to the acre. Very little concentrated manure is used on our lands, which are continually under tillage; these are always more telling on land broken up from sod, where the fibrous roots of the sod stand in lieu of stable manure.

I would advise all that intend engaging extensively in the business of market gardening should have attached to the business greenhouses to a greater or less extent, not only that they need never fail to give a good return for capital invested, whether for use in forcing vegetables, fruits or flowers, but, in addition, that the labor of the workmen can be utilized as well in midwinter as in midsummer. This enables the employer to keep his hands all the year around, instead of having the annoyance of hiring inexperienced men when the work begins in spring. From my first beginning of the business, now over forty years ago, we have always used greenhouses in connection with our outdoor gardens, and in consequence have been able to keep our old hands, at least twenty-five of whom have been with us from ten to thirty years. We pay these men nearly twice the wages of inexperienced workmen, and find it has paid to do so.

CABBAGE AND CAULIFLOWER SEED.

There is no crop with which success depends more on good seed than does cauliflower, and cabbage is only second to it in this respect, or else it disputes this rank with onions. Here in America we have a popular prejudice against European cabbage seed and a similarly strong prejudice in favor of European cauliflower seed. The best cabbage seed is grown on Long Island and on Puget sound, one being about as good as the other, if otherwise equally grown and handled; but I have had full as good success with many cabbage varieties, seed of which I obtained in various parts of Europe, principally from the "fatherland." The best Winnigstadt ever grown by me came from seed which I had myself imported. With most of our large, late sorts, however, we probably go safer when planting our own Long Island or Puget sound seed, although European seed of all their sorts can be had at a much lower price.

With cauliflowers, the case stands reversed in almost every particular. The only reliable, safe seed comes from Europe, the Extra Early Erfurt and its strains (of which Snowball is one) being the leading kind; and this seed costs at wholesale from \$6 upwards per ounce, so that its price is in a measure prohibitory. This is the reason I have watched the enterprise of H. A. March, of Fidalgo, Wash., with so much interest, and mentioned it before in these columns. He is engaged in supplying this demand for choicest cauliflower seed from American soil, and to judge from the samples I have received from him and tested, I infer that Puget sound is as well adapted to the production of a fine quality of seed as any country in the world, and as much as to that of cabbage. Moreover, Mr. March offers his Extra Early Erfurt, Snowball, etc., to seedsmen at only one third the figures asked by the growers in Europe. If this cauliflower seed business at the far West is carried on extensively enough, such seed will soon be within the reach of all, and we can all have good cauliflowers. Remarkable about this Puget sound seed is the size of each individual seed, and the unusual strength and vigor of each individual plant. Imported seed cannot compare with this. Some of this seed may not unlikely be palmed off on the unsuspecting buyer as a "new, improved variety," or at least as "genuine best imported" seed; but I do not think the purchaser will fare any the worse for it. At least, such is my confidence in the American product.

Prof. W. J. Green, horticulturist of the Ohio experiment station, has the same high opinion of it as I have. He also has

had it on test for two years. In a letter recently written and now before me, Prof. Green says: "Regarding this Puget sound cauliflower seed I do not hesitate, after careful trials, to say that it ranks with the very best. The large, plump seeds are so full of vitality that almost every one produces a healthy plant that will form a head, if circumstances are at all favorable. Not only does the seed germinate quickly, but the plants are very vigorous and healthy in all stages of growth. Heading qualities depend, of course, upon the quality of the stock, which has been developed by careful and long-continued selection. If the seed sent us is a fair sample, the grower need not hesitate to claim that it is as good as any that can be produced, so far as quality is concerned, and in vitality and corresponding vigor of plants it excels imported seed by twenty-five per cent. I shall not hesitate to recommend Puget sound cauliflower seed, for I believe it to be the best in the world."

This opinion will undoubtedly be strongly expressed in the station report. I mention it only for the sake of attempting to dispel the popular prejudice against home-grown cauliflower seed. If seed dealers offer it under its true name and character, my readers need have no fear to give it a thorough trial, but at the same time they might insist on the privilege of having it considerably cheaper than the imported Extra Earliest Dwarf Erfurt.

JOSEPH.

Orchard and Small Fruits.

CONDUCTED BY SAMUEL B. GREEN.

ROOT GRAFTING.

This operation may be performed from January to April with success, and I have root grafted as late as May. It is best to have the work done by the first of March. The stocks or roots used are grown from seed for the purpose. Thrifty, one-year roots are better and more easily worked than two-year roots. Do not use crab roots except for crab trees, for they make the large-growing kinds dwarfish in habit. The roots should be dug and the scions cut in the fall and should be kept dormant, buried in sawdust or moss in a very cold cellar or pit. The method of union is known as whip grafting, and consists mainly in fitting the two parts so closely together as to insure a union of inner bark of both graft and stock. Pieces of the root are sometimes used to graft on, but the whole root is much the best. The cuts are made and put together as shown in Fig. 1. The stocks are washed to take off the grit that it may not dull the thin, sharp knife necessary for this operation. Their tap roots are shortened and the tops are removed at the collar of the root with a smooth, sloping, upward cut; in the center a downward cut leaves a tongue. The scion is cut on its lower end with a sloping, downward cut, and a tongue is made on it to fit the tongue on the corresponding



FIG. 1.



FIG. 2.

cut on the root. The two parts are then neatly joined together, the inner bark of both being in close contact on one side at least. The joint is then firmly wrapped either with narrow strips of waxed paper, or cotton cloth, or with cotton warp drawn through melted grafting wax, and are then packed away in sand in a cool cellar. They should be planted in nursery rows in the spring, setting them in the soil as deeply as shown in Fig. 2. Handle them carefully.

CIDER VINEGAR.

To make first-class vinegar I have followed this plan: Use only sound fruit from late varieties of apples and throw out all leaves and rotten stock, for a good article cannot be made from it. Use only sweet, clean barrels. Musty barrels are a

nuisance and hard to purify. Clean whiskey, rum or alcohol barrels are best. New barrels or very old barrels should be repeatedly washed with boiling water for several days and once with thin, hot lime wash before being used. After the barrels are filled at the mill, allow them to set in the open air, if the weather is not cold. Keep them filled up to the bung and let them work over and throw out the many impurities found in new cider. After this first strong working is over, the barrels may be removed to the cellar and should be set on timbers or other material. The temperature of the cellar should not fall much below 50° for good results, and a higher temperature will promote the quicker formation of vinegar. As soon as fermentation nearly ceases, which will be sometime in January, the cider should be racked off from its sediment into sweet barrels. This will cause it to ferment again, and it should be racked off whenever it stops working. The reason for this is that in order to form vinegar, fermentation must be carried to its full extent. Racking (drawing off) is done in order to remove the cider from the sediment which is formed by fermentation, and also to bring it in contact with the air, by which it takes up germs of fermentation. It is a most excellent plan after the cider has first stopped working and has been racked off from its sediment, to rack it off as often as possible. It cannot be done too often. In large vinegar establishments there are many appliances for doing this, and the cider is kept warm and racked off frequently.

KEEPING APPLES.

There are just a few things to remember in order to keep apples. They should be sorted closely and the attempt only be made to keep the best. They should be packed in tight barrels and "headed up," and should be stored where the temperature will be as near 32° Fahrenheit as practicable. I have generally found it best to head the barrels up after sorting the apples, and then to pile the barrels up on the northerly side of some building or in the shade of trees, protected from rain until there was much danger of their freezing outside. By this time the cellar will be sufficiently cool to allow of safe storage in it. There should be a thermometer in the cellar, and great care should be taken not to allow it to get too warm. Ventilation should be done at night in warm weather and the ventilators kept closed during the day. I generally open the barrels before storing for a long time and sort them over again, if necessary. Of course, apples may be kept in many other ways, but this way I have followed successfully and found it as inexpensive as any satisfactory method. If stored in bins, they should be made small in size.

INQUIRIES ANSWERED.

BY SAMUEL B. GREEN.

Fertilizer for Grapes.—C. M. R., Russellville, Ark. Any good fertilizer is good for grapes, although it is best to avoid using much barn-yard manure on land that has much organic matter in it. On most soils one of the best fertilizers is ground bone (not burned). It should be applied at the rate of about 800 pounds per acre. On some lands, if about one hundred pounds of muriate of potash per acre is added with the bone it will be much more effective. It is necessary, in order to obtain a proper idea of the wants of any land, that experiments should be carried on to note the effect of different fertilizers on the yield in the crops. To this extent, certainly every farm should be an experiment station and the manager should be an experimenter. I would not advise using a large amount of land in such experiments, but they can be conducted on a small scale and be made very instructive. I suggest that you try the effect of wood ashes, if they can be cheaply obtained near you, using them broadcast in your vineyard at the rate of thirty bushels per acre on a part of a row, and on another row try rotted stable manure at the rate of ten cords per acre. Also, apply muriate of potash at the rate of 200 pounds per acre to another portion. Note the effect of these applications and you will then begin to find out the real wants of your lands. Remember that a good fertilizer for one soil might not produce any effect on another. One soil may be especially rich in potash, while another is rich in phosphoric acid, etc.

Evergreen Berries.—E. J., Oquaka, Ill. By evergreen berries I suppose you mean juniper (red cedar) berries. These should be gathered in the fall or in the winter. Before sowing, the berries should be mixed with strong, wet wood ashes for about three weeks. By this time the pulp will have been softened so that it can be rubbed from the seeds. If a little sharp sand is added it will aid materially in rubbing off the pulp. The sand and pulp may be removed from the seed by putting the whole mass in a sieve so fine that the seed will not go through, and then pouring water over the whole mass. The seed should be sown at once in a good, mellow, rich bed in the open ground and covered one half inch deep. Over the surface scatter leaves, chaff or similar material very lightly. This mulch should be mostly removed after the plants appear. The plants should be shaded from very strong sunlight by a lath screen, or by evergreen boughs, for the first two years. Sometimes the seed will not germinate the first year, in which case a mulch of three inches should be put on, and the bed should be kept until the next season.

A position is a good thing to have. A position as stenographer is secured by Chaffee's Phonographic Institute, of Oswego, N. Y., to all pupils when competent. Particulars free.

Our Farm.

THE POULTRY YARD.

Conducted by P. H. Jacobs, Hamonton, New Jersey.

WHERE THE LOSS OCCURS.

The loss in keeping poultry is mostly in the winter season, and results from keeping over until spring stock that consume food without giving any return. Such stock consists, usually, of immature pullets, overfat hens, surplus cockerels, late-hatched chicks and moulting hens. The food is not the only consideration in the matter, as the room is also taken up and occupied. A dozen laying hens in the entire flock have the duty of convincing their owner that poultry pays, while the others eat their share of the food and refute the impression made by the profitable members of the flock. Nearly all poultry houses contain unprofitable stock, and the only reason for permitting such is the expectancy of each beginning the work of egg production daily. There is no half-way house in the matter of poultry keeping, and but little reliance can be placed on the future. It is the ever-present that we must meet, and no one should attempt to wait for a profit. The best hens that are known will find it difficult to recover lost time, and this is more applicable to the surplus stock that give no promise of production until the spring rolls around. Loss of time is loss of profit, and the safest and surest mode of avoiding loss is to keep no unproductive stock.

ROOT CROPS AND POULTRY.

If roots and ensilage improve the health of animals, and cheapen the cost of the food, they will do the same for fowls. It is too expensive to feed grain exclusively, when the winters are long and severe, and as the hens prefer a variety, they should have it. A quart of corn meal, added to half a peck of cooked turnips, will provide a better meal than can be procured from either the corn meal or the turnips if either are fed alone. It is the mixed food—the combination of various elements—that enables the hen to provide the different substances that make up the combination called an egg. Lime, phosphates, nitrogen, magnesia, and even water, are elements that are absolutely essential, and many foods contain an excess of some kinds and a deficiency of others. When a mixed food is given, there is a partial balancing of the needed elements, and the several varieties assist in digesting each other, thereby avoiding waste of undigested food. Finely chopped ensilage or clover, potatoes, turnips, carrots, or any succulent, bulky food, served with an admixture of a variety of ground grain, will provide the hens with a larger supply of egg elements and entail less cost for food than when the hens are compelled to subsist entirely on grain.

A FEEDING-PEN.

When feeding growing chicks they should have all they can eat, while the hens should only be fed moderately, so as to compel them to scratch and exercise, and thus keep in better laying condition. As it is sometimes necessary, however, to keep the hens and young stock together, some plan must be devised to prevent the hens from eating the food intended for the chicks. This may be accomplished by having a coop, about two feet wide and four feet long, made of lath, closed on the top with lath, also, with openings large enough to admit the chicks, but too small to allow the hens to enter. Under this coop the food may be placed, and the chicks can then eat as often as they wish, but the hens must work.

THE DUST-BOX.

The dust-box must be under cover, away from the rains, as dampness will cause the dust to become lumpy, as well as freeze in cold weather. The hen prefers dry, fine dust, and the finer it is the better. For that reason coal ashes should be sifted twice, so as to avoid any coarse portions.

CONSUMPTION SURELY CURED.

To THE EDITOR:—Please inform your readers that I have a positive remedy for Consumption. By its timely use thousands of hopeless cases have been permanently cured. I shall be glad to send two bottles of my remedy FREE to any of your readers who have consumption if they will send me their Express and P. O. Address.

Resp'y T. A. SLOCUM, M. C., 181 Pearl St., N. Y.

SHIP IN LIGHT COOPS.

Every pound of weight in the coop is so much more to be paid for as freight or expressage when the birds are shipped. A coop should be strong but light. The bottom should be of boards, but a few lath, with the sides and top of muslin, will enable you to make a coop that will not weigh heavily, will be more convenient to handle, will cost less than if entirely of boards, and will protect the birds against draughts of air, which is detrimental to them on the journey. Give plenty of room in the coops, as crowded birds will lose flesh before arriving at their destined point.

THE PERFECTION FEED-TROUGH.

The "Perfection" is the name given a feed-trough by Mr. B. C. Palmer, Water Mills, N. Y., Fig. 1 showing the trough ready for use. Fig. 2 is the design of the lower part, and Fig. 3 is the cover, which fits over Fig. 2. The illustration shows the design so perfectly that a description is unnecessary. The trough is four feet

FIG. 1.—THE TROUGH READY FOR USE.

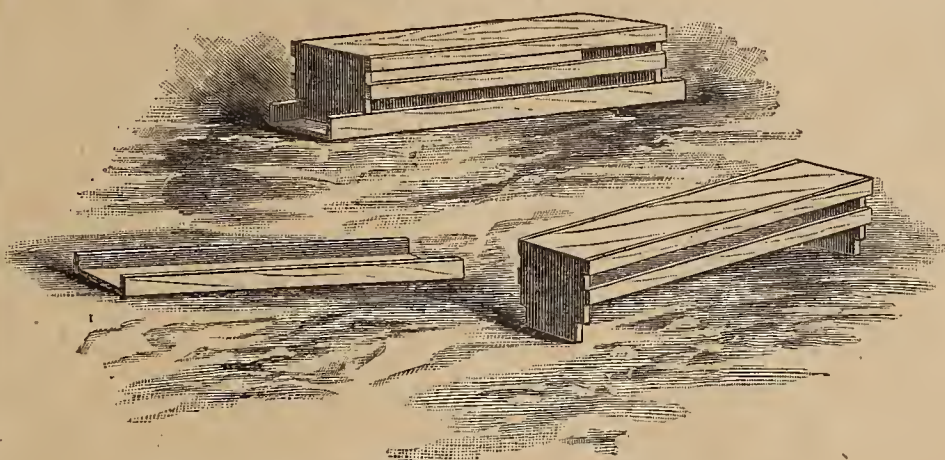


FIG. 2.—LOWER PART OF TROUGH.

FIG. 3.—THE COVER.

long, or the length of a lath. It is intended for young chicks, the sides being of lath, or the whole trough may be made of lath. As the cover lifts off, it is easily cleaned, and also very light. If preferred, the lath on the sides may be regulated so as to enlarge the space between (for the heads to enter) as the chicks increase in size.

BOARD FLOORS IN WINTER.

Board floors are warm, and if kept covered with sand or dry earth, such floors may easily be kept clean by sweeping them with a broom. It is better, however, to first throw an inch of dirt on the floors and throw leaves or cut straw on the dirt. In this manner the hens may be induced to scratch and exercise. Exercise will avert feather-pulling and other vices, and keep the hens in good health. Earth floors are usually damp, thus promoting the roup, which is a very prevalent disease in all sections of the country.

LEGHORNS FOR MARKET.

The old expression that a "Leghorn is not a market fowl," will soon be a thing of the past, as that opinion has been demonstrated to be erroneous. The Leghorn is small, it is true, but the small fowls are preferred in market, though the contrary is supposed to be the case. As a chick, it will weigh a pound as soon as the chick of any other breed, and as it is well supplied with breast meat, has golden yellow legs and skin, and presents an attractive appearance, being about the proper weight for market, it sells readily at the highest market price.

FEEDING IN TROUGHS.

Unless soft food is being given, the trough should never be used for holding the food. Grain should be scattered, so that the hens will be compelled to hunt for it. In that manner there will be no opportunities for the domineering hens to secure more than their share, and each member of the flock will have an equal chance to secure a proportion, the hen working the hardest being the most fortunate. Such hens are usually the best layers.

A HOME MARKET.

There is a home market for eggs, especially for strictly fresh ones, and the home market can be supplied with less expense than to ship eggs to a distance. But the home market will not come to you. If you wish its advantages you must seek it,

"display your wares," and build up a trade, satisfying customers by giving them something a little better than that which they usually obtain. Fresh eggs and choice poultry do not "go begging" if customers are made to feel confidence in your goods.

PERMANENT NEST-BOXES.

Of all the abominations that can be devised for harboring lice and increasing filth, that of fastening the nest-box to the poultry-house in a manner to easily prevent its removal, is the worst. A nest-box is the place selected by lice in preference to any other, and it should be so arranged as to permit of taking it out of the house entirely, in order to give it a thorough cleaning.

CLIMATE AND BREED.

On Thanksgiving day the temperature in Dakota was 25 degrees below zero, while in New Jersey it was 50 degrees above—a difference of 75 degrees. Such an extreme on the same day, shows that while the birds in New Jersey may be foraging in

the open air, those in Dakota are confined in the poultry-house. For Dakota, a bird should have a small comb, be well feathered, and contented in confinement, the Brahmas, Cochins and Wyandottes being suitable; but New Jersey will permit of more activity in the breed, and prefers a fowl that will forage at every opportunity. The question of which is the best breed depends not only on climate, but also on the conditions of management.

POUNDED GLASS FOR POULTRY.

Grit is sometimes hard to procure, but broken glassware can always be had. It may be a matter of surprise to some that they are advised to give pounded glass to poultry, but it is harmless to them, and observation will convince the skeptic that when the hens have been unable to procure grit, the pounded glass will be swallowed with avidity. Never use colored glass or crockery, as it may be poisonous, but keep a box of pounded glass, pounded crockery, or some other sharp material, where the hens can get it at all times, especially when the ground is frozen, and such material is scarce.

OATMEAL FOR CHICKS.

As there are several kinds of oatmeal it is not out of place to describe the kinds used for chicks. First comes the ordinary ground oats, which is really corn and oats ground together. This is cooked or scalded, according to the age of the chicks. It may be sifted, and the coarser parts fed to adult fowls, or it may be fed entire. Granulated oatmeal, sometimes known as pin-head oatmeal, or "oaten grits," is coarsely-ground oats, sifted free from chaff, and is almost entirely oats. The rolled oats is sold by all grocers, being oats that have undergone a manufacturing process, cooked, and so prepared that it comes in the shape of flakes. It is very light, and is used by housekeepers for the production of "instantaneous oatmeal gruel," and is the best food known for very young chicks.

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To introduce them, we will give away 1,000 self-operating washing machines. No washboard or rubbing required. If you want one send to the Monarch Laundry Works, 23 Pacific Ave., Chicago, Ill.

THE MALES IN THE FLOCK.

If the hens have the run of a large field where they can separate and forage in different directions, the number of males is not a matter of great importance; but one male for ten hens will be as many as should be retained. When the fowls are confined in yards, however, only one male can be kept in each yard, whether the number of hens be great or small, as two or more males will quarrel to such an extent as to render the whole unserviceable.

MUSCOVY DUCKS.

For producing an excellent carcass for market, the Muscovy duck, crossed on the common kinds, is equal to any of the large breeds. It is very large and heavy, and the cross results in a very compact bird, plump on the breast and attractive in appearance, "selling on sight" as soon as they arrive in the markets. We can safely recommend the cross as excellent.

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EXTRACTS
FROM CORRESPONDENCE.

FROM SOUTHERN ILLINOIS.—For fine counties, this part of the state takes the cake. This county can raise wheat, corn, Irish and sweet potatoes, all kinds of garden vegetables and all kinds of fruits—even the fig does well. Tomatoes and musk melons are grown very extensively. There were shipped from this county six hundred car-loads of berries, fruits and vegetables this year. W. P. Anna, Ill.

FROM PENNSYLVANIA.—Most of the land in Tioga county is tillable and very fertile. What is not tillable is covered with hard wood and hemlock timber. The lumber business is quite extensive. Lumber is worth \$3 per thousand, and hemlock bark \$5 per cord. There are six coal mines within eight miles of the county-seat. Work is plenty and wages are good. Our crops last season were very good, excepting potatoes and apples. M. A. B. Knapp, Pa.

FROM PENNSYLVANIA.—The land in Bucks county is good. Wheat and rye average about fifteen bushels per acre; corn and oats, about fifty. Our best money product is milk. Land without improvements is worth from \$20 to \$30 per acre; improved land, \$35 to \$75. I am a protectionist, but I would vote to put the necessities of life on the free list. We pay too much for them, according to what we get for milk and butter. The West is shipping beef and pork to our markets cheaper than we can produce it. Fresh cows are worth \$35 to \$45; horses, \$100 to \$165; hay, \$4 per ton; pork, \$5 per hundred; wheat, 90 cents per bushel; rye, 65; corn, 50; oats, 32, and potatoes, 75. C. H. W. Trumbauersville, Pa.

FROM MICHIGAN.—Marquette county, perhaps one of the richest in the Union, is in the upper peninsula, and is noted for its iron and copper mines. The largest copper mine, excepting the Anaconda, in Montana, is here. The gold range in this county is, some say, worth as much as the copper and iron put together. Some of the gold veins are remarkably rich. Even pure gold is found. A dozen gold mines are being worked. The largest one had a vein eighteen inches thick at the surface; it is now down eighty-five feet, and the vein is seven and one half feet and getting better. Marquette, our principal city, has a population of 10,000, having doubled within five years. This is a fine place for vegetables and small fruits, and the market for them is good. Marquette, Mich. W. F. M.

FROM FLORIDA.—I have been in Florida since last January, through the worst of its seasons—the dry and the wet—and don't know of another section of the United States I would be willing to leave it for. As to drawbacks, there are enough here as elsewhere, but none to be compared with the cold of any one of the northern states. As to the drawbacks, the worst one by far is the newness of everything here. One railroad has been through here only three years; others are chartered through and on down to Fort Myers, twenty-five miles farther south. We are only about twelve hours' ride from Jacksonville, but are in a much better section of country naturally than about there. Here the soil is richer and darker, mostly; the thermometer does not have so wide a range. On the hottest day last summer, it didn't go over 92°; seldom goes down to 32°, even in December, the winter month here. One of the worst features of this section is the almost utter lack of efficient help. The men here all have enough to do on their own land; that is, the enterprising ones. A man can land here penniless and get a competency quicker by honest means than in any place I know of. A young couple I met since coming to Florida, landed here with only twenty-five cents in their pockets two years since. Now they are living in comfort on forty acres they are paying for. We are within a few minutes' walk of tidewater, and within some four or six miles of the gulf of Mexico. Fish and oysters plentiful. L. C. Cleveland, Fla.

FROM ARKANSAS.—M. E. B. says that Grand Prairie makes a bale of cotton to the acre. I ask M. E. B. to state on what part of Grand Prairie cotton produces such an enormous yield. I say enormous, because one third bale is the average yield for the entire cotton belt. I unhesitatingly assert that Grand Prairie, one year with another, will not make 400 pounds of seed cotton to the acre, and that is but one fourth of a bale. Whose cotton was that planted on the prairie just east of your town this year? The patch was a fair average of the land, as far as could be seen from the cars, and I know it did not make 100 pounds of seed cotton to the acre. If cotton makes a bale to the acre on the prairie, why do men who know all about cotton go into the timber, where it takes half a lifetime to make a farm? D. B. W. did not misstate facts concerning the capacity of Grand Prairie to produce crops. I own several hundred acres of prairie land here, which is exactly like the prairie around Carlisle. I have been here thirteen years. My first crop on the prairie was corn and stock peas, planted on the sod. It made fine peas

and good fodder, but no corn. The second year I made three bales of cotton on six acres, and twenty bushels of corn to the acre. Those were good crop years. The third year I made two bales of cotton on fourteen acres, and ten bushels of corn to the acre. I have not tried to raise any more cotton on the prairie. I went into the timber, and I raise my cotton there, and use the prairie for oats, millet and crab grass. The trouble with the prairie is that it is too retentive of moisture, and is deficient in potash and phosphoric acid. I use kainit and acid phosphate, 200 pounds per acre, and make good oats. I have lots of cattle and make great quantities of manure by this means. I make fine corn where I use fertilizers. Underdraining is the great need of the prairie; this costs money, and as long as timber land can be had at present prices the prairie will not be drained. As it is, it raises beef, mules and horses at little cost. To the northern man I would say, if you want to raise stock, go to Grand Prairie; but if you want to farm, give it a wide berth. D. B. W. is an old acquaintance of mine. Had he remained on the prairie as I did, he would have succeeded. The S. L., A. & T. railroad now runs through that region, and it is fast becoming a fruit-growing center. W. M.

FROM FLORIDA.—Lee county is sixty-six miles north and south and seventy-two east and west, with eighty miles of gulf coast, and innumerable fertile islands, all in tropical Florida and about free from frost. Fort Myers, its county-seat, is on the south bank of the Caloosahatchee bay, in 26½° north latitude. In round numbers it is four hundred miles south of Georgia, two hundred north of Cuba, three hundred south of Jacksonville, Florida, one hundred and twenty-five south of Tampa, one hundred and twenty-five north of Key West, one hundred and thirty west of the Atlantic coast and ten east of the gulf coast. I think it very wrong to overdraw a country's advantages and mislead people. Where a man has an interest in a country, it will cover up many defects. Many are enamored of a country because of their self interest, or that they have never seen any better. People unacquainted will be surprised to see how much cold a grown orange tree will endure, while a young one is very tender. Of course, an orange tree cannot stand zero and live, but mercury may hang around close to it and all be right. We have had two notable freezes in Florida—one in 1835 and the other in 1886. I was in Mobile, Ala., in January, 1886, when they had freezing weather four days and nights, the mercury going down to five degrees above zero and ice formed four inches thick. All the orange trees of that vicinity were killed to the ground, and most of them never sprouted again. Pensacola, Jacksonville and all north Florida shared a like fate, many trees being killed outright that had been producing 10,000 oranges per annum. A few days thereafter I went to Tampa, one hundred and seventy-five miles farther south, where they had four days and nights of freezing weather, forming ice two inches thick, and the mercury went down to sixteen degrees above zero. All tropical products were killed and even lemons and limes and all orange trees under three years old. Not a limb of a bearing orange tree was killed, and they only shed about half of their leaves, but the fruit was rendered unsalable. I have seen winters in central Ohio not cold enough to kill a bearing orange tree. I reached Fort Myers in the latter part of January, 1886, and the mercury had been down to thirty-three degrees above zero one morning and twenty-eight degrees another. The foliage and most of the limbs on all of our tropical trees were killed, and some killed outright—all of them prevented from fruiting one year. You could see no effect of frost on the fruit or foliage of the orange, and even lemons and limes did not shed their blossoms. The shaddock, pomelo and citron are as hardy as the lemon. The word "orange" has caused more people to be humbugged than any other word in Webster's dictionary, by alluring them to an inhospitable climate where people die from pneumonia and typhoid. Orange is a golden word for real estate agents and boomers. I do not know what some writers would do without it. L. C. W. Fort Myers, Fla.

FROM THE PAN-HANDLE OF TEXAS.—When a person contemplates a change, and that change involves the necessity of breaking up of home, of tearing one's self away from old friends and associations, and the establishment of "social status" in a new community, the first thought should be, will a change be beneficial to all concerned? It is true that a man with a family growing up around him is more anxious about the future of that family than any question of present comforts, and if a change, with its concomitant of discomforts, will enhance the possibility of placing his children in a position to do well for themselves, he is generally willing to make the sacrifice. This, we all know, is not an easy matter in the North, where land is high in price, where the markets are generally glutted with all kinds of farm products, and where farming interests have not the consideration to which they are entitled. Heads of families are often at their wits' ends when endeavoring

to solve this great problem of life. Right here is the solution: Come South, young man, come South, and bring the old folks along; let them breathe the invigorating, health-giving air of the plains. Randall, Swisher, Hale, Crosby and surrounding counties should satisfy the most fastidious of home seekers. With the exception of a severe cold snap occasionally, especially along in the early spring, the climate is all that could be desired—generally dry, but with sufficient rainfall to insure a good growth of vegetation. We can work outside eleven months in the year, under the bluest of blue skies. I have seen the "Italian sky," but I prefer the Texan. The soil is a deep, sandy loam, just the thing for the growth of small grain and for an orchard and vineyard. Wild fruits, such as grapes, currants, plums, etc., grow to perfection. And there is plenty of this good soil to be bought from the state by actual settlers at \$2 per acre, on forty years' time, at 5 per cent interest. Society is very good, and I take this opportunity to remove a false impression prevailing in the North in regard to our cow-boys. The idea that the cow-boy is the embodiment of ruffianism is a chimera of man's brain. In his general deportment the cow-boy will compare favorably with good men in any other of the walks of life. Our sheriff is a cow-boy, our assessor is a cow-boy, our justice of the peace is a cow-boy, and better behaved men could not be desired. And I think Texas might well be congratulated upon the possession of such material for good citizenship as is to be found in her cow-boys. Great caution should be exercised by the home seeker in regard to the water supply, and he should not settle on any land until the depth of wells in the neighborhood has been ascertained. Some portions of the Pan-handle would not do for farming purposes, on account of the depth to water. The northern portion of Randall and southern border of Potter counties are of this kind. The proper thing for the farmer seeking a new location to do is to apply to farmers for information, which, with any other needed assistance, will be cheerfully rendered. He can be shown some of the finest land on the face of the earth, where he can obtain pure water at a depth varying from fifteen to sixty feet. My well is thirty-three feet deep, with an abundant supply of good water. Canyon, our county-seat, has a new court-house nearly completed, a school-house will shortly be built and churches may be expected in the near future, especially as the railroad is expected soon to pass through the county. V. R. Canyon, Texas.

FROM TENNESSEE—THE CLARKSVILLE TOBACCO DISTRICT.—This section of country, noted in many of the great tobacco markets of the world for its rich, dark, shipping leaf tobacco, much esteemed in England, Germany and other foreign markets, includes about twenty counties in both Kentucky and Tennessee. Clarksville, Tennessee, from which the district and its tobacco derives its name, the principal planters' market of this section, and the second largest planters' market for tobacco in the world, is located about ten miles from the Kentucky line and a little south of the central portion of the district. There are probably but few sections of country in the world more favored than this in many particulars, and none, I think, that will grow, with more or less profit, a greater variety of productions. Indeed, I know of nothing that grows within our Union that cannot be produced here with proper attention, except, of course, such fruits and other articles as require a tropical climate. Though tobacco, corn, wheat and stock are the main productions grown here for market, oats, rye, barley, sorghum, clover, blue grass, herds grass, timothy, orchard grass, millet and other kinds, either are or can be grown to perfection. Fruits of nearly every variety, including peaches, apples, pears, quinces, apricots, plums, grapes, strawberries, raspberries, blackberries, and other kinds except those of a tropical nature, are grown here, and with proper attention do well. Walnuts, hickory nuts and chestnuts grow plentifully wild in the woods, whilst peanuts are cultivated to some extent, and produce well, though a more sandy soil a little south of this is better for them. As regards vegetables, all kinds desirable for family use are grown here, including Irish and sweet potatoes, cabbage, melons, celery, asparagus, beans, peas, etc.

The surface of the country is generally rolling and hilly, though some portions of it are level. Almost the entire district is interspersed with never-falling springs of cold, clear water, running streams, creeks and rivers, some of which furnish fine water power for milling purposes. The Cumberland river passes through this section, and is navigable for steamers to points several hundred miles above here. Some of the lands here are very rich, producing all kinds of crops without the aid of fertilizer, whilst others require the use of fertilizers to be fully productive for tobacco and similar crops. There are also some lands that are unfit for profitable farming, which may be used for stock pasturage, as none are so poor but they will produce something upon which stock can feed. Nearly all lands here, except in some of the timber sections, are fenced and have dwelling houses and other

improvements upon them, and range in price at from fifty dollars for the best down to about five dollars per acre or less, though in some cases good farms are sold as low as from fifteen to thirty dollars per acre. Society is first class, and equally as good in the country as it is in the towns and cities. Churches of various denominations and public schools abound throughout the country, and are usually well attended. The liquor laws of Tennessee are the best of any state in the Union, as they confine the liquor traffic entirely to incorporated towns and cities where they have police regulations, and thereby no country cross-roads saloons are allowed to exist. Our climate, as compared with the northern and north-western states, is very mild, with but little snow during the winter, though we usually have a few quite cold days, with the mercury a few degrees above zero, and also a few hot days in the summer, with it up to ninety degrees, though sunstrokes are almost unknown.

As regards politics, our people are conservative and nonsectional, knowing neither North, South, East or West; and when strangers come among them with honest purposes they are made welcome. It matters not whence they come. But if their purposes are not honest they are advised to stay away, and might sometimes profit very greatly by heeding this advice. We have among us a good many colored people who were born and raised in this section, many of them having been slaves before the war, and are now good, quiet citizens, respected and honored as such. In all legal, political and religious matters they are treated as equals, and under all circumstances allowed the full privileges of voting their preference at all elections, political or otherwise, and all statements to the contrary as regards this section of the country are false. Clarksville, our great central tobacco market, contains a population of about 8,000, and is built upon as many hills as Richmond, Virginia. These hills, however, enable it to have fine drainage, and thereby aid in making it a very healthy town. It is immediately on the Cumberland river, sixty-five miles below Nashville, and has steamboat navigation very nearly the entire year. It is also on the Memphis branch of the Louisville and Nashville railroad, two hundred miles from Memphis and one hundred and eighty from Louisville. Clarksville is the second largest planters' market for tobacco in the world, Louisville, Ky., being the first, and consequently its main or largest interest is connected with tobacco, to the neglect, I regret to say, of manufacturing enterprises, which would certainly pay its people much better in the end than tobacco almost exclusively. For, notwithstanding the fact that it is one of the best localities for successful manufacturing purposes in the Union, there are but few of any importance here. With four miles of river frontage on the Cumberland and Red rivers, large bodies of fine timbered lands, growing oak, poplar, hickory, walnut, hick, chestnut, cherry, etc., in sight, extensive beds of iron, one within ten miles, immense coal fields nearby, with railroads running through them; cotton fields within sixty miles on the south, and a splendid agricultural region on every side to furnish plentiful and cheap supplies, there are but two things necessary to make Clarksville one of the most profitable manufacturing centers in the country. And these are: Enterprise of the proper kind, and capital. It has a considerable number of enterprising merchants, doing both a wholesale and retail business; five newspapers, five banks, good public school buildings, universities for both males and females, a number of fine churches, several hotels, fine public buildings, including a court-house that cost \$100,000, many beautiful homes, ten large tobacco warehouses, with receipts ranging from 30,000 to 50,000 hogsheads annually, eight stemming houses, four houses for prizing tobacco; ice factory, foundry, several flouring mills and saw-mills, within and near the city; two planing mills, street-cars, water and gas works, electric lights, telephones, etc. Within three miles of Clarksville are situated the celebrated Idaho Springs, having some four or five different kinds of fine mineral waters, which are said to possess many curative powers, and are usually well attended during the summer months. Upon the whole, we have a town and a surrounding country, with its many prosperous villages, that possess nearly all requisites necessary for the comfort and well being of mankind, and should any of your many thousands of readers desire to make their sojourn among us, they will, as stated, be welcome. But they must not come with the expectation of finding money laying loosely around already coined, or growing wild on trees, for fear of being disappointed. G. H. S. St. Bethlehem, Tennessee.

HAVE you seen the 5-A Five Mile Horse Blanket? If not, why not? If you have a horse you need it.

ST. JOHN, UTAH, Dec. 24, 1889.

The Peerless Atlas of the World is at hand. It was quite a surprise to find it so carefully gotten up—so much valuable information in statistics and so many things. Two friends of mine have just called in and seen the Atlas and left the money with me to send for paper and atlas. GEO. W. BURRIDGE.

Queries.

READ THIS NOTICE.

Questions from regular subscribers of FARM AND FIRESIDE, and relating to matters of general interest, will be answered in these columns free of charge. Querists desiring immediate replies, or asking information upon matters of personal interest only, should enclose stamps for return postage. The full name and post-office address of the inquirer should accompany each query, in order that we may answer by mail if necessary. Queries must be received at least two weeks before the date of the issue in which the answer is expected. Queries should not be written on paper containing matters of business, and should be written on one side of the paper only.

Patrons of Industry.—G. M. A., Boulder, Cal., and others. Peter Scott, Port Huron, Mich., is the secretary of the order of Patrons of Industry.

Books on Architecture.—G. W. F., Fisherman's Bay, Cal., and others. For books on architecture, write to the Co-operative Building Plan Association, 24 Beckman street, New York.

Prize-taker Onion.—Several subscribers in Ontario, Canada, inquire whether the Prize-taker onion is early enough for that section. It probably is, if planted early. Try it on a small scale, as you would any other big-priced novelty.

Grape Vine.—Mrs. E. E. Y., Poplar, Ohio, writes: "One of my neighbors has a grape vine. The grapes are small, round like bullets, red and very sweet; the bunches are very compact. What is it, and can it be raised from a cutting?"

REPLY BY JOSEPH:—This, probably, is the Delaware, and one of the best it is. I would advise you to buy a good, strong plant somewhere. They are not very expensive. The Delaware can be propagated from cuttings, but it is more difficult to grow than Concord and grapes of that class.

Wheat Bran as Fertilizer.—C. W. C., of Mount Gilead, Ohio, asks why "Joseph" has not given the valuation of wheat bran.

REPLY BY JOSEPH:—Wheat bran contains about 2½ per cent nitrogen, 3 per cent phosphoric acid, and 1½ per cent potash, and consequently has a chemical (manurial) value of about \$13 per ton. If to be used directly on the land, we can afford to pay this price. But it is always advisable to feed all farm stock liberally with wheat bran, and thus make the manure so much richer. For this purpose, we can afford to pay \$15, and, perhaps, even more, per ton. Rye bran has about the same valuation.

Nitrate of Potash.—D. C., of Mercersburg, Pa., asks: "Why not use nitrate of potash instead of nitrate of soda? The former we can buy in the drug store, and even if it costs a cent or two more per pound, we get potash in it, which we do not in nitrate of soda."

REPLY BY JOSEPH:—Nitrate of potash, or saltpetre, is a good fertilizer, but we cannot afford to use it because it is too expensive. Nitrate of soda costs about \$55 per ton. This contains 325 pounds of nitrogen at 17 cents per pound, giving a chemical value of \$55.25. Saltpetre waste from gunpowder-works varies greatly in composition, but a fair sample will have about 15 per cent of potash and 2 per cent of nitrogen, being worth about \$21 or \$22. The pure saltpetre cannot be bought at any figure which would justify its use as a fertilizer, except in case of flowers or high-priced plants.

Oyster Shells as Fertilizer.—R. O. B., of Stroudsburg, Pa., asks: "Does it pay to burn oyster shells for lime and fertilizer?"

REPLY BY JOSEPH:—I have always felt well repaid for the trouble of burning oyster shells in the following manner: All rubbish that has accumulated during fall and winter—yard rakings, tree trimmings, old bed straw, chips, etc.—is piled up in the yard and a fire started in the center. The oyster shells that have accumulated during the winter are then gradually put upon the burning heap, alternately with more combustible material, brush, etc. Wet chips and wet, old straw is then covered over the pile for the purpose of keeping it smoldering for a period of several days and nights. Old sods may also be added. All this material is thus burned to ashes. Rains, if they happen to come at this time, help to slack the burnt shells, and the result is a powder that proves to be a most excellent top-dressing for the garden, and one which insects do not seem to like. Try this plan, if you wish to raise radishes and cabbages free from the maggot.

Sawdust on Asparagus Bed.—W. S. V., of Canton, Ohio, asks: "What would you think of the idea of covering the asparagus bed completely over with well-rotted sawdust, heavy enough to keep the weeds down?"

REPLY BY JOSEPH:—Very little would I think of it. In asparagus growing, we always aim for earliness. Mulching thus heavy with sawdust all over the bed would probably retard the growth. I suppose the rows are wide enough for cultivation, as they should be. Then I would prefer to keep the weeds down between the rows in the usual way with a cultivator. But there might be less objection to putting a well-rotted article of sawdust right over the rows, deep enough to choke out weeds, and produce long, well-bleached stalks. If the bed is small and closely-planted, as often the case in the family garden, it might do well enough to put a good coat of a mixture of well-rotted sawdust and horse droppings all over it.

VETERINARY.

Conducted by Dr. H. J. Detmers, Veterinarian of the Ohio Agricultural Experiment Station, and Professor of Veterinary Surgery in Ohio State University.

To regular subscribers of FARM AND FIRESIDE, answers will be given through these columns free of charge. Where an immediate reply by mail is desired, the applicant should enclose a fee of one dollar, otherwise no attention will be paid to such a request. Inquiries should always contain the writer's full address. Queries must be received at least two weeks before the date of the issue in which the answer is expected. Subscribers may send their veterinary queries directly to Dr. H. J. DETMERS, 35 King Avenue, Columbus, Ohio.

Sweeney.—F. B., Galva, Ill. You will find your question answered in this present issue. Your mixture can do no good.

Small Tumors.—K. G. D., Atlanta, Illinois. It is possible that the small growths you complain of are small cysts or tumors, but since they do not incommode the animal, and apparently do not grow, they are better left alone. A removal, at any rate, can be effected only by a surgical operation, which may leave behind a more serious blemish than is caused by the growth itself.

Wart.—J. B. H., London, Ohio. To remove such a wart requires a surgical operation. If you can put a ligature around the root of the whole wart, and can draw the ligature tight enough, it may be all right; if not, you will have to employ somebody who knows how to extirpate such a morbid growth.

Thoroughpin.—J. H. S., Beaver, Utah. The swelling you describe seems to be a so-called thoroughpin, a morbid enlargement of the capsular ligament; but the lameness, undoubtedly, has a different source. If the same has its seat in the hock-joint, it is, very likely, caused by spavin.

Umbilical Hernia.—F. W. C., Greenwich, Ohio. If the hernia is small it may yet disappear, since the animal is only a yearling; but if it is as large as a hen-egg, or larger, its removal requires a surgical operation, which can be performed only by a competent veterinarian.

Swelled Leg.—C. O., San Jose, Cal. Questions like yours, about chronic swellings, have been answered in nearly every number of this paper; therefore, look up those answers, and don't ask me to say the same thing over and over again. There is no space available in the FARM AND FIRESIDE for useless repetitions; besides that, they are tiresome.

Big Head.—N. A., Divide, Ark. So-called big head in horses, as already repeatedly explained in these columns, may have different causes. If your animal is also stiff in the hind quarters, and at the same time emaciated in spite of good food, some constitutional, and, very likely, incurable disease is at the bottom of it. But what it is, does not appear from your description.

Stiff in the Fore Legs.—J. A. W., Eagle Lake, Texas. It seems your mare has been injured by overwork—galloping under the saddle—and a degeneration of the muscles of the fore part has been the result. It is barely possible that time will affect a restoration. Nothing can be accomplished by medical treatment. To give her good, nutritious food, and to afford her all the voluntary exercise she is willing to take, is about all you can do.

Probably Rabies.—K. M. F., Bradford, Ind. The symptoms you describe are similar to those of rabies in cattle. Therefore, if a dog affected with that disease has been in your neighborhood I would hardly hesitate to pronounce it a case of rabies. Why did you neglect to make a post-mortem examination? It might have solved the question. When you made an incision into the abdomen, you simply opened an luteus, therefore the yellowish green liquid.

Swine Plague—Mange.—L. W. H. For swine plague there is no remedy after the morbid process has once fully developed. You may save those that are yet healthy by removing them from the infected premises, and by keeping them strictly separated on an uninfected, high and dry place, destitute of rubbish, straw and half rotten manure. As to treatment of mange, consult recent numbers of this paper.

Fender in a Pig-Pen.—E. B. W., Central City, Neb. As to your first question, I supposed that any practical hog raiser knew what is a fender in a pig-pen. It is simply a board—a common, six-inch fence-board will answer—which is fastened edgewise to the walls or sides of a pig-pen, about six, seven or eight inches above the floor, so as to afford beneath a hiding place for the pigs, in which the sow cannot fall upon them.

Uterine Trouble.—Your cow probably suffers from some chronic inflammation of the uterus. If she has aborted, or if she has not cleaned after calving, the straining is explained. In that case you may make, very carefully though, some injections of warm (100° Fahrenheit) chamomile tea (well strained), to which one or one and a half per cent of pure carbolic acid, or one permille (1:1,000) of corrosive sublimate has been added, into the uterus.

Swelling of Gland.—I. F. B., Mullinville, Kansas. Your description, although rather indefinite, points toward a swelling of the thyroid gland, which is situated on both sides and a little below the larynx. As it is harmless unless it increases to an enormous size, and as the operation required to remove an enlarged thyroid gland is a dangerous, or, at least, a difficult one, such a swelling is best left alone. If your drinking water is very hard, you may give rain or cistern water to the cow.

Indigestion.—W. J. H., Elmwood, Ill. Your veterinary surgeon, it seems, is correct in his diagnosis. If his medicine did no good, it may be that the morbid changes which cause the indigestion cannot be removed, or that you have not allowed sufficient time, and not continued his treatment long enough. The causes of such a chronic indigestion, even if they can be removed, usually consist in morbid changes, which cannot be restored to a normal condition in a short time. I advise you to consult your veterinary surgeon once more.

Weak in Hind Quarters.—E. C. P., Reardon, Wash. The difficulty with your colt, unless afflicted with so-called "ice balls" (hard swellings in the muscles of the hind quarters, caused by a degeneration of the muscular tissue, and rather conspicuous when the animal is exercised), appears to be in the spinal cord or its enveloping membranes. Practically, it does not make much difference whether the difficulty is in the muscles or in the spinal cord, because in either case it is incurable.

Mange.—A. J. P., Cocheton, N. Y. If your dog has mange, wash him thoroughly all over, first with soap and water, and then with a two per cent solution of carbolic acid, and keep him in an uninfected place. Repeat this treatment every five or six days, until a cure has been effected. At the same time keep the dog on a light diet, especially if the same is very fat. His customary sleeping place, etc., must be thoroughly cleaned, and be disinfected. Persian insect powder will answer for the latter purpose.

Calves Scratching and Coughing.—E. H. B., Denning, N. Y. Barn-cellars, as a rule, are damp, dark, ill ventilated and warm, and therefore a splendid place for all kinds of parasitic diseases to develop. The scratching may be due to several causes, which, in order to be found, require a thorough examination of the skin of the animals. Coughing is due to some respiratory disorder; in your case, possibly either to tuberculosis or foul air. Young animals, especially, should never be kept in an underground stable.

Periodical Ophthalmia.—J. J. M., St. Joseph, Mo., writes: "At times my horse can see tolerably well, and at other times can hardly see at all. His sight seems to be best when the moon is diminishing in size. Once since we have owned him he lost his sight entirely for a short while; his eyes began to grow

milky; when they were improving there was a white sediment in the lower part of the ball, which disappeared."

ANSWER:—The disease is periodical ophthalmia. It is hereditary, and almost invariably leads to blindness.

Tetanus, or Rheumatic Paraplegia.—D. W. K., Garland, Kansas. It may be that the doctor you had is right, and that the disease is tetanus, for which he may have used the term "locked jaw" as a synonym. Your description, however, rather points toward rheumatic paraplegia, a disease called by the Canadian veterinarians, "azoturia." In either case, all you can do now is to keep the animal on a suitable diet, and to take good care of the same. If, however, you continue to give heroic doses of medicine, you will surely kill the animal. If the bowels are yet costive, give soft food, bran mash, etc.

Cachectic Disease.—Vernal, Utah. Your horse seems to be affected with some cachectic disease, but to decide particulars requires an examination. You say: "There are no signs of stiffness or swelling about him," otherwise I would direct your attention to the lymphatics on the inside of the hind leg, and to the inguinal lymphatic glands. Hence, unless you omitted to state important symptoms, I must conclude that the disease is a complicated one, that important morbid changes are existing in the organs of nutrition, and that the lameness has no direct connection with the general debility.

Diarrhoea and Perverted Appetite.—H. N. V., Dallardsville, Texas, writes: "Please tell me what to do with my two-months-old colt. It was taken with scours some two weeks ago. Its mother is in good condition and is fed regularly on corn and crab grass hay. I notice that the colt eats dirt, and this morning I noticed that its excrement is at times sandy. It is playful and in good condition."

ANSWER:—There is something lacking in the constituents of the food, but not knowing all the conditions, it is difficult to tell what it is. It may be phosphate of lime. If such is the case, give to mare and colt, for a while, once a day, a bran mash.

Paraplegia in Hogs.—W. E. S., Sheridan, Iowa, writes: "The largest of my shoats are weak and lame in their hind feet; the difficulty seems to be mainly in the second joint from the toe (or the first joint below the hock). In walking the said joint falls forward and they frequently fall down. They avoid standing as much as possible and sit down like a dog."

ANSWER:—If the cause of the lameness or partial paralysis, as the case may be, cannot be found in the legs themselves, it may be that your hogs are full of trichina. You had better kill one, and have the meat examined by a microscopist. If you conclude to do so, and do not know of any microscopist, I will make the examination for you, if you will send a piece of the tenderloin. If it is slightly salted, wrapped up in a moist cloth, and then put in a box, for instance, in a cigar-box, and express charges prepaid, it will arrive in good shape.

Poll-Evil.—E. D. C., Leavenworth, Kansas, writes: "I have a horse that has a swelling back of the ears. On one side it is as large as a man's fist. When he travels he holds his head down and straight out. Has been holding his head queer for some time, but no swelling until lately."

ANSWER:—If the swelling does not show any soft spot (fluctuation), the formation of an abscess and of a subsequent fistula may possibly be prevented if you rub in, say once every four or five days, a liniment prepared by heating in a water bath for an hour one ounce of cantharides and four ounces of olive oil. The cantharidized oil, however, should first be strained through some muslin before it is used. If an abscess is already formed, and, in consequence, a resolution impossible, the above application will hasten the ripening. The opening of an abscess, and the subsequent treatment, is best left to a competent veterinarian.

"Corn-Stalk Disease"—Sweeney—Cholera-Proof Hogs.—W. W. M., Custer, Kansas, writes: "Please inform me about the 'corn-stalk disease' that affects cattle so fatally in the north-western states.—I have a fine horse that was sweened some time ago. He seems to be filling out, but he is gaining so in flesh, so that I cannot tell. What treatment would you advise? Is there a cure that would leave no blemish?—Is there a cholera-proof breed of hogs?"

ANSWER:—You will find an answer to your first question in one of the last issues of this paper.—As to your second question, so-called sweeney requires time, good, nutritious food, voluntary exercise and exemption from hard work, and will disappear ("fill up") in about six to eight months. No other treatment is required.—As to your third question, no breed of swine is exempt from swine plague, or so-called hog cholera. Only such hogs as are not exposed to the infectious principle—the bacilli which causes the disease—remain exempt.

A Complicated Case.—A. E. S., Palestine, Ohio, writes: "I have a cow that was fresh last fall a year ago. Last spring she began to give bloody milk. She would give a large flow of milk, and then fail and her jaw would swell. Her udder lip formed a pouch like a pelican. Then her udder would get sore and her jaw would go down and she would come to milk again."

ANSWER:—Yours seems to be a complicated case. The (oedematous) swelling beneath the jaw indicates an hydraemic (dropsical) condition, and the "bloody" milk may be due to a lax or weakened condition of the walls of the capillary blood vessels. I therefore would advise you to give your cow more solid, substantial and strengthening food and less fluids. A little sulphate of iron, say a drachm or two a day, mixed with her feed, or with her water for drinking, may do her good. Besides that, she should have outdoor exercise, should be fed with good, sweet hay and grain, should receive no slop whatever, and when in the stable, the latter should be well ventilated and be kept dry and clean.

Chamignon—Founder.—E. J. C., Muskegon, Mich. You will find your first question answered in a recent number of the FARM AND FIRESIDE. Such a thickened spermatic cord requires an operation. The animal must be thrown, the cord must be loosened from the scrotum, and then a clamp must be put on as high as possible upon a portion of the cord that is yet healthy. The degeneration is due to a faulty operation in the first place, but particularly to not separating the strings of the cord from the border of the wound in the scrotum when the clamps were removed. Have the operation necessary performed by a veterinarian who understands his business, and make the man who operated in the first place pay for it.—As to your second question, go to your horse-shoer and tell him to

put on bar-shoes, and to make the shoes sufficiently concave inside of the nail holes so as to avoid bearing upon the sole of the foot. This advice, of course, is on the supposition that the horse has been foundered. If the same is also otherwise ailing, the case may be different. Consult the veterinarian who will operate your colt.

Vertigo or Obliteration of an Artery.—S. F., Crook, Col. I give you credit for endeavoring to give a lucid description, while the majority of inquirers seem to think that a veterinarian is a prophet or at least the son of a prophet, and can base a diagnosis upon one solitary symptom. Unfortunately, being neither a prophet nor a son of one, I cannot. Still, even in your case, some important facts are omitted in your description. The falling down of the animal, and the subsequent recuperation, would point toward vertigo, but the fact that the animal commences to "drag one hind leg" does not support that diagnosis. If you had stated that the animal, after having been driven half a mile or so, commences to limp with one hind leg, that the lameness gradually increases until the leg becomes useless, and that then, if driving is continued, the animal will fall down, after a two or three-mile drive, I would say there is very likely an obliteration in one of the most important arteries (usually in the crural) of that hind leg. Whether this is the case or not, can usually be ascertained by an examination through the rectum. Practically, it makes not much difference whether the animal has such an obliteration or is subject to vertigo, because both afflictions are incurable, and make the animal worthless.

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Our Fireside.

NO KISS.

"Kiss me, Will," sang Marguerite,
To a pretty, little tune
Holding up her dainty mouth,
Sweet as roses born in June.
Will was ten years old that day,
And he pulled her golden curls
Teasingly, and answer made:
"I'm too old; I don't kiss girls."

Ten years pass, and Marguerite
Smiles as Will kneels at her feet,
Gazing fondly in her eyes,
Praying, "Won't you kiss me, sweet?"
Rite is seventeen to-day;
With her birthday ring she toys
For a moment, then replies:
"I'm too old; I don't kiss boys!"

A Bartered Birthright.

BY JAMES FRANKLIN FITTS.

CHAPTER I. AT THE BANK.



It was high noon of a summer day of 1887, and at the intersection of Large and Old streets the stream of business and traffic flowed at high tide. In that bustling, "booming" town of fifty thousand, this point was as near the center of commercial gravity and importance as such a point can ever be located. The four corners of this intersection were occupied by business blocks as stately and substantial as such are ever seen outside of a metropolis. Particularly was that upon the south-east corner, the Barkley, the pride and boast of the people of Scioga. They were wont to say that lower Broadway would not have been ashamed of it, so imposing was its dark granite front with white stone trimmings, so elegant its interior finish, so perfect its appointments. All that modern applied science was capable of had been put to use—the elevator, the telephone, electric lights, water-pipes—and it was said that Norman Barkley had not yet tired of standing across the street and viewing with a kind of silent rapture his proud possession.

Public halls, lawyers', doctors' and other offices occupied the upper floors. The first floor was devoted entirely to the bank, its parlor and offices, and high up over the entrance and the enormous plate glass front you might read in gilded letters two feet long, "Security National Bank."

At this hour the space outside the carved, mahogany counters, topped with open iron-work, was filled with messengers, with men and women who came and went, depositing, drawing out, obtaining discounts. Most conspicuous within, as usual, was the first paying-teller, whose rapid and always correct counting of large sums of money was accompanied by an appearance of carelessness which long practice had made perfect, and which never failed to challenge the amazement of the person outside the wire screen.

The cashier, the bookkeepers, clerks, errand-boys, all were busy. In the parlor a meeting of the board of directors was being held.

Sitting at his desk, far in the rear of the long bank-room, opposite an aperture in the gilded iron lattice, was Mr. Carson Newbold, cashier of the bank. He was a man of about forty years of age, with clear-cut features, one blue and one gray eye, brown hair, thinning toward the top, and a perfectly colorless face. He had been in this institution since it was organized, and by reason of his thorough knowledge of banking, his great capacity for the dispatch of business, and his high standing



MR. NEWBOLD SEES A FACE THAT DISTURBS HIM.

in social and religious circles, he was deemed indispensable by the directors. He had but a few shares of stock in the Security, but was said to be the owner of an elegant home on the street which the new aristocracy of Scioga especially affected. He was reputed to be quite wealthy. Everybody knew that he was a member of All-Souls' church, and superin-

tendent of its Sabbath-school. To speak more definitely of how he looked is impossible. In his business suit or in broadcloth he bore the appearance of a well-to-do gentleman. But if you looked at his face you generally found it expressionless. Rare were the occasions when any emotion was reflected in it. What was usually hidden behind that colorless mask, it was vain to inquire.

On this day Mr. Newbold was, as usual, in perfect business trim, attending to the applicants at his window with promptness and dispatch. Inquirers about loans were briefly but fully answered, proposed discounts passed or refused—everything decided at once, without hesitation. It was this ability and "style" that had won Mr. Newbold his enviable name in business circles.

In a brief interval of business he looked up at the opening and saw a face there that disturbed him. It was the face of a young man, quite new in the twenties—an open, manly face, which had been ruddy before trouble drove out the color, and in which deep brown eyes, and a mouth as delicate and sensitive as a woman's, were the remarkable features. The face just now wore an eager, serious and rather determined expression, mingled with some agitation, which the cashier did not fail to note.

"What do you want?" he asked, gruffly.

"Justice."

Mr. Newbold rapped his desk sharply with his knuckles. He spoke in a low voice, so that his words might not be understood by the attendants of the bank; but it was stern and threatening.

"See here, my young fellow, you are going just a step too far. I suppose I can stand it a while longer to have you meet me in the street and talk to me about your alleged wrongs, but when it comes to your showing



"WITH HIS HANDS BEHIND HIS HEAD, STARED AT HIS VISITOR."

yourself here, in bank hours, and demanding to take my time with such chaff—why, then I must decline to hear you. Just go away, now, or I may have to send for a policeman."

"I shall not stir till I have had justice! I will not—"

The cashier threw up his hand in a deprecating way, made a hasty memorandum at the foot of an open letter, and said:

"Well, sir, if you will be as quiet a fool as you can. Don't get excited, don't attract attention and get up a scene here right in the busiest hour of the day. You've no case; there's no use in my hearing you, and you know it as well as I do; but I'll be patient with you, as I have been from the first. What is it, Mr. Greeue?"

"Draft on Melbourne for seven hundred and fifty dollars."

"Go to the teller."

"I have seen him; he don't know the rate of exchange."

"Well, that's easy. Stand aside, Mr. Baruard, please, for a moment."

The cashier made a few rapid figures with a pencil, handed them out with the instruction, "Take that to the teller," and then confronted the young man again.

"Well?" he said, with the tone and the look of one who is badly bored.

"Mr. Newbold," said George Baruard, with energy, "you know what my complaint is. There is no use whatever in my multiplying words. You knew at the time of it the great wrong you put upon me, and I have often enough since appealed to you for justice. You have always refused it; you have heard me with impatience, just as you do now. Three months ago I was a bookkeeper in this bank, doing my work faithfully and intelligently

for ten dollars a week. I obtained my position by the recommendation of a business college to you; the president of the bank assented when you said you were satisfied. I was a stranger here; at this moment I have no powerful friends. The time came when you learned that I had walked with your daughter on the street; that I had called at your house and been received there as a gentleman should be. For that—for nothing else under heavens—you summarily discharged me. I asked you to give me credentials; you refused. This would have been bad enough, but you were capable of worse malignity than that. It seems that even so poor an underling as I was cannot be turned out of a great corporation like this without inquiry being made about it, and in my case some of the directors asked you what the trouble was. You know what you said; you know the innuendoes, absolutely false, with which you sought to blast my character. Well, you succeeded—so well that you satisfied them, and, as a consequence, have prevented me from obtaining employment elsewhere. For the last time, sir, I ask you for justice."

"Well, what do you mean by that big word? Would ten dollars, to take you out of town, satisfy you?"

The heartless sneer cut poor Barnard to the quick, but he did not show that he noticed it.

"I want you to reinstate me here in my old place. I want you to tell the board that—"

"You need say no more," rudely interrupted the cashier. "I'll not hear another word. You have annoyed me now beyond all reason. Just take yourself away from here or I'll call a policeman to help you."

George Barnard moved to the door of the bank parlor a few feet away.

"There are people in there who will hear me," he said. "And when they have heard what I

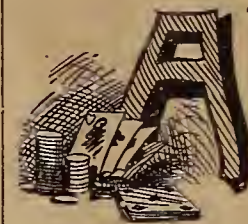
"Mr. Giles," he said to one of the clerks, "sit here during my absence. Say to people inquiring for me that I will return in half an hour. Mr. Barnard, please come into my private office; the business you spoke of must be very carefully talked over. No, Mr. March," to a new-comer, "I can't possibly attend to you now; I have business here that presses."

Inside the cashier's office the key was softly turned in the lock. Newbold threw himself on the lounge, and with his hands behind his head, stared at his visitor. Then he asked:

"What the devil do you mean?"

CHAPTER II.

GALL AND WORMWOOD.



At any other time George Barnard would have been amazed to hear such an expression as this from the correct, the refined, the pious Mr. Newbold. Just now, considering the excitement that he knew the cashier must

be laboring under, though he betrayed little of it outwardly, the young man was not surprised at all. And knowing his man better than the people of Scioga did, he was quite prepared to hear such language from him at this time, when the people of the city were shut out by lock and key.

He knew what he wanted to reply, but he had not got his thoughts thoroughly arranged. Newbold noticed his hesitation, and repeated, with a show of bravado:

"Yes, sir, tell me just what you mean. No nonsense, now, with me. If you've got anything you think I ought to hear, out with it, and I'll quickly answer it."

"You shall know right away," Barnard replied, sturdily. "You've got a standing and a reputation in this city and in this bank that you're not entitled to. You are a hypocrite—the worst kind of a hypocrite! What would all your church work and your Sabbath-school work amount to—aye, what would your position in the bank amount to if the truth were published? You are a gambler—a regular, confirmed gambler, and therefore unworthy the confidence of anybody!"

The speaker watched the man's face as he talked, anxious to see the effect of his words. To his great surprise they seemed to have very little effect. The truth was, they did strike some terror to the vulnerable soul of Carson Newbold, but the fear of detection, exposure, disgrace and punishment, which the young man's vague threats had opened before him, took so wide a range that he experienced a certain negative kind of relief in hearing the nature of the charge. He lay back and eyed his accuser half defiantly.

"Is that all of it?"

"That is what I mean to use against you if you will not right the wrong you have done me. There are certain suspicions and probabilities that naturally grow out of it, but that is the direct charge I mean to use."

"You can't prove it."

"I can."

"How?"

"I will tell you. The gambling-rooms in the fourth story of the Industrial block are supposed to be kept very secret. Usually they are. But detectives often occupy a hiding-place on that floor, where they can see and hear all that goes on. I'll put it plainly, sir: that is part of the price of immunity that the proprietor pays to the police."

The cashier was staggered by this disclosure. His cool self-possession fled instantly. His eyes were wild, and his breath came by gasps.

"Good God, boy! what do you tell me?" he cried. "Have I ever been seen there from the outside?"

"Yes, indeed! One of the detectives is my friend; he knew my wrongs, and sympathized with me. On the night of the 7th of this month, and again on the night of the 12th, I was hidden there with him, and heard and saw everything. On the first night that I have mentioned you won five hundred dollars; on the second night you lost twenty-three hundred dollars."

Newbold groaned in corroboration of this statement.

"Do you mean to tell the directors of this?" he demanded, huskily.

"Yes. When I found that you were a hypocrite and a villain, I saw that you could be influenced only through your fears. That is the way I am appealing to you now. I have my facts all well in hand; what have you got to say against them?"

"It's absurd!" the cashier blustered, with a dying show of resistance. "Nobody will believe such things of me. The board won't believe them."

"Probably not, at once," Barnard coolly replied. "You'd indignantly deny it, I suppose, and for a few hours they would think me a very depraved young man, to make such charges against you. But I should give them something to think of. I should excite and alarm them. They would dog you every day with a detective—"

"No, no," the cashier interrupted, "I can't stand anything of that kind. You say you have told me all you know about me?"

"All I know—yes."

"What do you mean?"

"Simply the suspicion that always attaches to a gambler. I am young, but I have seen a great deal of the world. I mean the suspicion that the man who gambles as heavily as you do uses other people's money in gaming."

"I never have."

"I hope not."

The eyes of the two met. Newbold realized that his remark was an implied confession of guilt.

"I understand the length and breadth of your position. Before I treat with you, answer me one question. Am I in any danger from that detective?"

"No. He was not spotting for you on those



GEORGE BARNARD LABORING OVER LEDGER AND PASS-BOOKS.

nights, but was after other game. He was more surprised to find you in that place than I was."

"What sent you there?"

Barnard looked him calmly in the eye.

"Your face was never consistent with the character you have assumed before the world; there is no soul in it. I knew you must be vile somewhere. I simply searched till I found the weak spot."

The cashier looked at the carpet. His hand played nervously with his watch-chain.

"You are sure of the detective?" he faltered.

"Yes. He is not a blackmailer; he is an honorable man, laboring in a legitimate calling. He will not betray you; to make assurance doubly sure, I will get his promise never to mention your name in this connection."

Carson Newbold rose from the lounge with an air of relief.

"Will you give me the detective's name?"

"Yes, when you satisfy me."

"Very well; wait here a moment."

He unlocked the door, went out, and returned in less than a minute, relocking the door after him. He laid down on the small table before Barnard ten new, crisp notes of the Security bank for five hundred dollars each.

"These are yours," he said. "All I ask of you is your pledge to leave Scioga on the first train to-morrow, and never return here."

George Barnard faced him with kindling eye, got out of his chair, and with one movement of his arm swept the notes to the floor.

"No!" he thundered. "No! I don't want money; I can't be bought. I want my honor, which you have cruelly sacrificed."

He was five feet eleven in height, and as he stood erect there in his righteous indignation, he looked to the guilty soul of the cashier fully eight feet.

Newbold had played his last card, and failed. He broke down, and became abject in the terrors of his position.

"George—George Barnard, my dear fellow, you surely wouldn't persecute me this way. You were in love with Violetta, you know. Violetta is my daughter, my dear child. Now, if you'll only—"

The disgust that filled Barnard's face was painful to behold.

"Stop!" he exclaimed. "Is it possible that you are so base as to mention her name here? You violated honor and conscience to destroy me, because you saw that I was not disagreeable to her. Have you the meanness now to appeal to my love for her as a reason why I should not compel you to do me justice?"

"What shall I do?" Newbold whimpered.

"Restore me immediately to my place."

"I'll do it," was the eager reply; "I'll do it right off."

"That is not all. Come into the parlor with me, tell the directors that you were mistaken about me, and have restored me to my position because you had discovered that I was wronged."

"No, no, I can't do that!"

"Nothing else will answer. Do it, or I'll go in alone."

The cashier walked the narrow room, groaned, and almost wept in his agony of spirit. He wet his head at the basin, and unlocking a small cupboard, took a large dram of brandy.

Barnard watched him in silence; the man was being fully revealed to him.

"What assurance have I," Newbold asked, "that you won't betray me after I have done as you wish?"

"My honor!" was the proud reply. "You may not know what that means; I do."

The remark was not resented.

"Come," the cashier said. "I trust all to you."

Half a dozen men were waiting outside to see him. He passed them all and entered the bank-parlor with Barnard. The hour was now half-past one, and the meeting of the directors was about to break up. Mr. Barkley, the fat and florid president, had risen from his chair, and the half-dozen others about the long table were smoking and chatting.

"One moment, Mr. President and gentlemen," Newbold said. "I have nothing of importance to bring before you—merely a personal explanation. This is Mr. George Barnard, who was employed as our second bookkeeper some months ago, and was rather summarily discharged. Some of you have mentioned the matter to me since then. I think it due to him to say that I have investigated the complaints against him, and am satisfied that they were not well founded. Mr. Barnard is perfectly capable, and I believe thoroughly honest. I have reinstated him in his old position, and think it no more than right to say to you what I have about him."

Glaucous of curiosity and interest were turned from Newbold to Barnard.

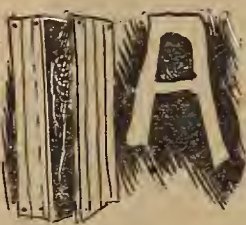
"Well, now, young feller," Mr. Barkley said, "I'm reely glad you've turned out all right. Good clerk, we used to hear, have heard you kept them books O. K. Little hard on him, Newbold, wasn't you? Always keeful for the bank! Good failing. You're our watch-dog, Newby. Glad to see you back, young chap; hope there won't be no more fuss about you."

For an hour and a half more Carson Newbold discharged his usual duties at his desk and window. Nobody observed the aberration of his mind. He talked, discussed and decided as clearly as ever. But in each interval of business his eyes turned involuntarily to a distant counter where George Barnard labored over a big ledger and a pile of pass-books.

Nemesis seemed to have entered the building.

CHAPTER III.

SKELETONS IN THE CLOSET.



At four o'clock the cashier left the bank and walked homeward. It was his habit to take the street-car, but on this evening action better suited his mood. A tempest was raging in his

brain. He found himself incapable of steady thought. Of a sudden, almost as in a flash, when he deemed himself secure in his standing in the eyes of the world, safe in the practice of secret vices, the revelation of which would have fallen like a thunderbolt upon Scioga, the church and his business connections, and safe, too, in his plans for the future—at such a time he had been sterily brought face to face with his hypocrisy by one whom he had injured and despised; had been compelled by fear of the consequences to humble himself before the board, and to restore this avenger, this personified conscience, to his place.

For what? What were to be the consequences?

Was this youth, this mere boy, holding the threat of discovery over him, to be a spy upon his every word and act? Had Carson Newbold thus created the instrument that was to work his own downfall?

The ground seemed sinking beneath him; he saw himself disgraced, hurled from the lofty heights of power, influence and honor that he had long occupied, perhaps arraigned before a court of justice. In the tumult of his brain the penitentiary stood gloomily in the background.

He could not think; the sounds and the sights of the hour passed vaguely before his



UPON HIS APPEARANCE, THE LADY LOOKED UP.

senses. He heard the newsboys crying the evening papers, with accounts of a steamship disaster on the Pacific and a shocking murder in Philadelphia, but he hardly knew what was meant. He met men who bowed respectfully and ladies who smiled in cheerful recognition; he mechanically touched his hat as he passed. He merely recognized them, but could not have spoken their names.

He reached Paradise Avenue, and traversed

one of its broad walks between leafy elms and maples and green lawns, until he came to a handsome Queen Anne style of house, fronted with well-kept grounds which were diversified with flowers and fountains. He walked slowly up to the door. On the piazza sat a matronly woman in a rich afternoon costume. She was quite fine looking, with dark hair and eyes and regular features, but with a coldness of manner which was only removed outside her own family circle. A spectator of the meeting that now occurred must have been told that these two were man and wife, in order to believe it; he never would have known the fact from appearances. The lady had looked up from her French novel upon his approach, and had immediately returned to it. Only when his foot was upon the first step did she raise her eyes again. A cold nod was her only salutation.

"Is dinner ready, Frances?"

"I believe so."

"Well, I'm not hungry, but we might as well have it over. We can go through the motions."

He followed her through the spacious hall into the dining-room, where the meal was immediately served. Everything around them, the appointments, the furnishings, the furniture, showed the hand of wealth and taste. Why was this not a happy home? The public said that it was—a model one. They judged from outward appearances, from the apparent prosperity of Mr. Newbold, from the fact that the wife and daughter rode out in the carriage, that the three appeared at church together and that madam received her callers with sprightly ease and graceful chat. The public knew nothing of the skeleton in that family closet, of the marriage of convenience that had united these uncongenial hearts far from Scioga, almost twenty years back, nor of the daily sufferance with which the irksome yoke was borne. The public failed to remember, that

"By the fireside tragedies are acted,

In whose scenes appear two actors only,

Wife and husband,

And above them, God, the sole spectator."

She ate a little; he only tasted of one course after another and pushed them away. There was a painful silence.

"Where is Violetta?" he asked.

"Calling or shopping, I suppose."

"Frances—I want to ask you a question."

"Indeed!" Her voice had a sarcastic inflection. "You don't often honor me with so much confidence."

He seemed not to notice the sneer.

"Do you know young Baruard, whom we discharged from the bank some months ago?"

"I believe I knew of the existence of some such person. I never knew that he was either in the bank or out of it."

"We have taken him back to-day."

She heard the statement with indifference, and made no reply.

"He used to pay some attention to VI."

No answer. She looked curiously at him.

"Don't you recall the fact?" Mr. Newbold sharply asked.

"I do not. Why should I? You and your daughter have always been quite sufficient to yourselves in all things that related to her. I never have been consulted about them, and never expected to be."

"You never interested yourself about her."

"Have it your own way. We can't talk about that or about anything without quarreling; I think we'd better not talk at all. This conversation is none of my bringing on. Shall I ring for dessert?"

"If you please. I merely wished to add that—that if George Barnard chooses to call here now, I don't object."

Mrs. Newbold elevated her black brows, and rose from the table. She was oppressed by his company.

"If you'll excuse me, I will resume my book."

"Will you—"

She looked impatiently at him as he hesitated.

"Will you tell her what I just said?"

"Who—Violetta?"

"Yes."

"Carson Newbold, what's the matter with you? Who is this man that you're making such a to-do about?"

"He's all right—except that he's poor. I was a little hasty about him."

"Why don't you tell her yourself?"

"Because three months ago I forbade her to see him. I had some dreams then of marrying her to a rich man. I've thought better of that. It's better not to interfere. The only true marriage is that of the heart."

She laughed. It was forced mirth.

"You are really getting sentimental. Why didn't you think of this twenty years ago?"

He leaned his forehead on his hand and said nothing.

"I don't see yet why you can't tell her."

"It would humiliate me."

Madam shrugged her shoulders and coughed.

"I've been humbled to-day more than I can stand," he cried, losing his self-control. "How much there is of the same kind before me, I don't know—and you don't care. No matter; I don't want you either to know or to care. But when did I ever ask a favor of you? Is this not too small for even you to refuse?"

"Oh, I suppose I can tell her. It seems like a trivial little affair to me; but, as usual, there is some secret at the bottom of it that you don't choose to disclose to your wife. How is it—that young Mr. Barnard may call on VI, if he wants to? Very well; I'll tell her as soon as she comes home."

"Thank you. I shall probably be out to-night. You may lock up; I have my latch-key."

"It would be an amazing occurrence if you didn't go out to-night—and every other night. But suit yourself. I'm not even entitled to be consulted. Go your own ways."

The stately skirts swept through the doorway and the hall. He looked from the place where she had sat around the room, so cheerful yet so desolate—and a deep sigh agitated him. He



SHE RAN TO NEWBOLD AND KISSED HIM.

leaned his head upon his hand again and was lost in thought.

The ormolu clock on the mantel chimed five and then the half hour. The mau sat irresolute. Exclamations, disjointed fragments of speech, dropped from his lips. The servant came in to clear the table, and withdrew upon seeing him. Six o'clock struck.

There was a flutter, a little rush in the hall, like the rise of a flock of birds, and the glad warble of a snatch of song. A beautiful apparition burst in, bright, joyous, overrunning with life and health, and the freedom of eighteen years. Her blue eyes shone, her face was sunny with smiles; she threw her hat on the floor, ran to Newbold and kissed him.

[To be continued.]



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Our Household.

"ANOTHER BABY."

When the wild winter winds did blow
The bitter winds of January,
That swept with sparkling swirls of snow
The wastes of western prairie;
A little child came to my arms
To bring me joy—or sorrow, may be,
And so beset my vague alarms
I sighed—"Another baby!"

Another little wail to tend,
Another little, helpless stranger,
To lead, to feed, to fold, to fend,
From every wrong and danger,
To make one anxious, make one sad,
And fearful for each morrow, may be,
With heart half sorrowful, half glad,
I moaned—"Another baby!"

And then I thought how near, how dear,
The little children God has sent us,
How full they made our home of cheer,
And how their presence did content us—
Hard if but one were laid away
This year or next, as might or may be,
Our hearts would ache would burn, would
break,
And now—another baby!

Ah, so I thought, and so I said,
In ecstasy of peace and pleasure,
As bending down I kissed the head
Of my last, weest, weakest treasure:
"Oh, dear child of my life and love,
Whate'er you are, whate'er you may be,
I take you from the Christ above,
And thank him for—another baby!"

—Kate M. Cleary, in *Good Housekeeping*.

HOME TOPICS.

CELERY.—About a month ago, as I brought in some celery one morning, I said, "I could not find any nice celery; this is so poorly blanched that the tops must nearly all be cut off." "I can fix it," said Effie, as she looked it over, and sure enough, when it appeared on the dinner-table it was all beautifully white, and instead of the stiff sticks I had expected to see, each piece had a feathery top. Effie had trimmed off all the coarse, green leaves, and the tops of the stalks as far as they were green, then she had split the tops of the white stalks into six or eight strips, about three inches down, and laid them all in ice-water for half an hour, which had caused the split tops to curl. The tops that were blanched she mixed with these, and all said, "How pretty the celery looks!" It was a little thing, but I had never thought of it, and may be you never have.

HISTORY FOR CHILDREN.—Much more attention is paid to the study of history in our common schools than was given to it twenty years ago. This is right. Too much cannot be taught the children of the principles of our government, the duties of its principal officers, the history of its formation and of its struggles, and, in an impartial way, the main points of difference between the principal political parties. All this will tend to make more patriotic and better citizens, as well as wise and intelligent voters. But while much attention is given to the past, current events of state, national or world-wide importance are often overlooked. Some teachers use a daily newspaper in their schools, with the best results. Short lessons in events of the present are given two or three times a week. The most important of these are discussed as to cause and result. If it is something occurring in a foreign land, maps are consulted, and the exact place located. Then each one is requested to find out all he can about the place, and the manners and customs of the people. One who has never tried this would be surprised at the interest awakened and the information that will be collected in a short time.

A MEMORIAL TO MRS. HAYES.—In reply to Mrs. E. S. B., I will say that the Woman's National Press Association, of Washington, D. C., first conceived the plan of erecting a memorial in the city of Washington to the memory of Mrs. Lucy Webb Hayes. Not only because in this city of many statues and monuments not one has been reared to a woman, but also on account of the lovely character and Christian, womanly traits of Mrs. Hayes, who, during the four years that she occupied the position of "first lady of the land," not once sacrificed her pure and high perception of right to the customs of society. In September a meeting was called, to which all women's societies in the city

were invited to send representatives. At this meeting a committee on organization was appointed, consisting of members of Woman's Press Association, Red Cross society, Relief Corps, Suffrage society, Home and Foreign Missions, W. C. T. U., and Educational and Industrial Union.

After discussion and correspondence with prominent women of the country, the first idea has developed into the plan of building a temple in Washington, with a large hall for conventions, smaller rooms for committees, clubs, etc.; a reading-room and resting place for all women who may come to the city; a woman's exchange, etc; niches for statuary, or a gallery, where may be placed busts and portraits of great women, with a fountain and statue of Mrs. Hayes in front of the building.

Circular letters have been sent out all over the country, asking women to aid in this enterprise. Five thousand charter members are desired before the formation of the association, these charter members to select the national officers. The payment of \$5 constitutes one a charter member, and a certificate will be sent by return mail. The money may be sent to the secretary of the committee, Dr. Clara Bliss Hinds, 1331 N street, N. W., Washington, D. C. Among the members of the committee are Clara Barton, Mrs. Bishop, J. F. Hurst, Mrs. Senator H. M. Teller, and other well-known women, whose names are a guarantee of good faith. Five dollars are asked for from charter members

to the fourth chain of the 8 with which the round commenced.

Third round—Six d c under each loop of four chain.

Fourth round—For a leaf, 13 chain, miss first of these chains, and do 10 d c and 1 s c in successive stitches, then one chain to cross, and work up the other side 11 d c, 1 chain at top, and go down the other side of the leaf, doing 4 d c, 4 chain, 1 s c in the d c last done (whenever directed to make a "picot," work like this 4 chain and a s c on the d c last done), 6 consecutive double crochet, 1 s c on next, 1 s c in the 1 chain that was left; then 1 d c on each of the first 3 d c of last round, a picot, 1 d c on each of the next 3 d c of last round; now another leaf, *13 chain, miss the first of these chains, and do 10 d c and 1 s c in successive stitches, and with 1 chain to cross go up the other side 4 d c, then 7 chain, join to the third d c below the picot on the left side of the first leaf; do 9 d c under the 7 chain, 1 s c on last d c of the leaf, 3 consecutive d c, a picot, 4 more d c to reach the top of the leaf, where do 1 chain and go down the other side with 4 d c, a picot, 6 consecutive d c, 1 s c on the next, 1 s c in the 1 chain stitch that was left; then 1 d c on each of 3 d c of last round, a picot, 1 d c in each of next 3 d c of last round; repeat from * 6 times, then work 5 s c up the first leaf, 7 chain, join in the usual way to the last leaf, and work 9 d c under the chain, 3 more s c on the first leaf, then a picot and 4 more s c, which brings you to the top of the first leaf, and

down the side of this triangular bit with 9 s c and do 1 d c in same loop as 12 d c are already worked into, and repeat from * into the next 9 chain loop; then work again three times more from the beginning of the round, and you will have one of the square pieces which are required for the center of the open-work side of tidy.

Work the other square in the same manner. The wing-like pieces are the corners, and as you proceed with the second square you can join it to the first by a picot from corner to corner, and also unite the triangular-shaped bits together in the center. The engraving clearly shows the position of the squares when joined.

The leaves which surround the squares are worked as follows: 24 chain, 1 t c in the sixth chain from the needle, 1 chain, miss 1, 1 s c in next, 1 chain, miss 1, 1 t c in next, 1 chain, miss 1, 1 d c in next, 1 s c in next. Turn back, and now, always inserting the hook to take up the back thread of the stitches of previous row, do 9 d c up the side of the leaf. 3 d c in the top stitch, 9 d c down the opposite side, and 1 s c on the foundation stem; turn back and work 10 d c up the sides, 3 d c in top stitch, 10 d c down the other side, and again 1 s c in the stem; turn back and do 11 d c up the side, 3 d c in top stitch, 11 d c down the opposite side and 1 s c in the stem; turn back and work 12 d c up the side, 3 d c in top stitch, and 12 d c down the other side, then 1 s c in the stem, leaving there 8 chain stitches.

Repeat the above till you have 4 leaves done, then do 21 chain for the beginning of the next leaf, instead of 24, so that only 5 chain are left instead of 8; then begin the next leaf with 18 chain, so that only 2 chain are left; then again do 21 chain. This is to shape the corner. Now do 9 leaves with 24 chain to each; then repeat the 21, 18 and 21 chain. Then 4 leaves with 24 chain, and again do 21, 18 and 21 chain. And now 9 leaves with 24 chain, and finish with 21, 18 and 21 chain; and there will be in all 38 leaves to encircle the two squares.

After the first, each leaf is joined to the one preceding in course of working the last round, the seventh double crochet of which is to be caught with a s c to the seventh d c of the previous leaf; join round at the end of the leaves. Do a round of d c, working 1 stitch in each of the chain stitches that connect the leaves together. Place the squares in the center, and stitch the piques and the triangular points in their proper position at equal distances upon the round of d c. Now work round outside the leaves, doing 1 d c on the top of every leaf, and a certain number of chain between. Where you have 8 chain on the inside edge do 8 chain here, and at the four corners do 11, 14 and 11 chain. After this work a round of d c, then a round of s c, and fasten off.

REVERSE SIDE OF TIDY.

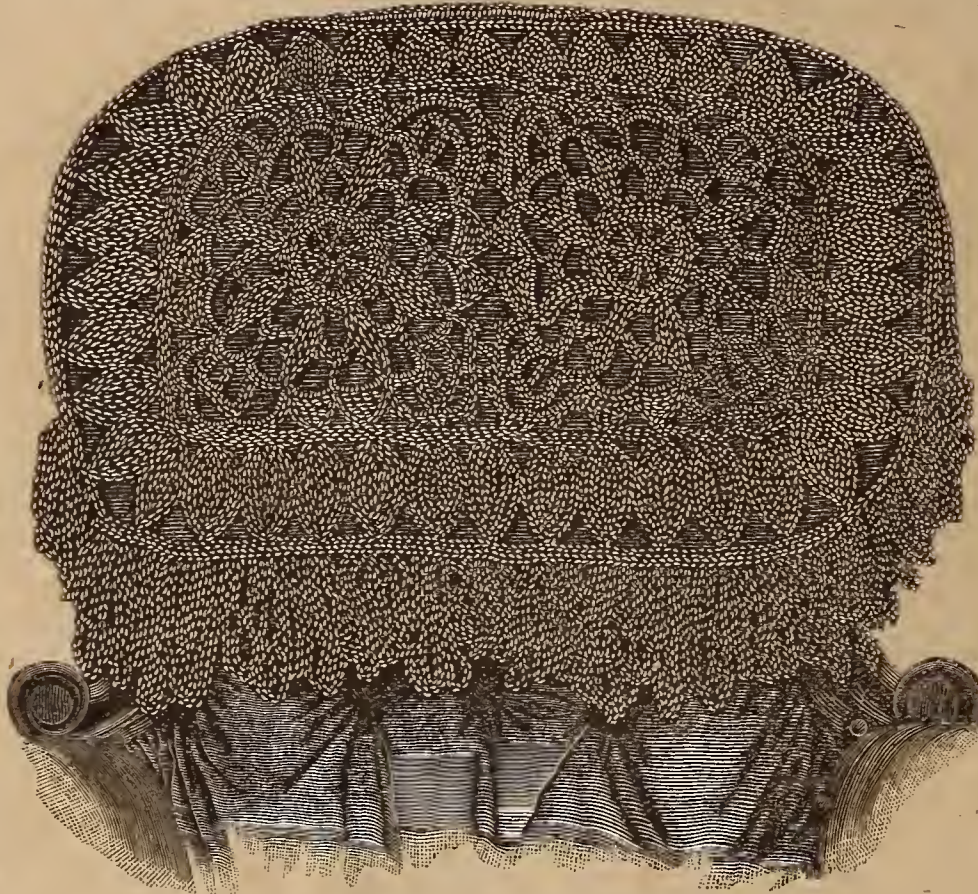
Commence with 13 chain, miss first chain, next the needle and do 12 d c along; repeat the same three times, when you will have four pieces for the four arms of the Maltese cross. Join round into the first chain stitch.

Second round—Turn the work, miss first stitch of arm, and always work into back part of stitch to form ridges; *do 10 d c in consecutive stitches, 3 d c in next, 1 d c at top, 3 d c in next, 10 d c down the arm, miss 2 at the bottom, and repeat from * three times; join round.

Third round—Turn the work, miss first stitch, *do 10 consecutive d c, 3 d c in next, 3 d c across top, 3 d c in next, 10 d c down the opposite side, miss 2, and repeat from * three times; join round.

Fourth round—Turn the work, miss first stitch, *do 10 consecutive d c, 3 d c at the corner, 5 d c across top, 3 d c at other corner, 10 d c down the side, miss 2, repeat from * 3 times; join round.

Continue in this manner, always missing 2 at the bottom and working 10 d c along each side and 3 d c at each corner, and having 2 extra stitches across top in each successive round, till you have 25 d c across the top (not counting the corner stitches); then in the next round, when working across the top, do 11 d c, pass the thread twice around the needle, and inserting the hook in the eighth stitch of



OPEN-WORK SIDE OF HOODED TIDY.

that a sum sufficient to warrant the organization of a "Woman's Monument Association" may be the sooner secured; but the final success of the movement depends upon the co-operation of all the women of the country. No sum is too small to give, and while hundreds and thousands of dollars are expected from a few, no doubt the bulk of the sum needed will be furnished by the small contributions of the many.

The idea is a grand one, and if carried out, future generations will point with pride to the memorial of the love and devotion of woman to the wise and good of her sex.

MAIDA McL.

HOODED TIDY.

EVA M. NILES.

Both sides of the work are different, one side open, the other side close, and both are equally handsome, so as to be reversed at pleasure. Get two pounds of any color of coarse twine desired; a No. 9 crochet needle. No. 6 needle for fringe. Begin, for one of the open-work squares, with 4 chain, join round.

S c means single crochet; d c, double crochet; t c, treble crochet.

First round—Work 8 d c in the circle; join round.

Second round—Eight chain, 1 d c on first d c of last round, 4 chain and 1 t c 6 times in consecutive stitches, 4 chain, and join

so completes the fourth round of the pattern.

Fifth round—Work 9 chain, 1 s c in center stitch of the 9 d c of last round, 9 chain, 1 s c on the point of the next leaf, and repeat all round.

Sixth round—Work 13 d c in the first 9 chain loop of last round, do 7 chain, miss first of these chains and do 6 d c along, 1 s c on last d c, then 6 d c in the next 9 chain loop, do 8 chain, turn this to the right and join to the top of the little row of 6 d c; do 8 chain, join to the seventh stitch of the first lot of 13 d c, then in last 8 chain work 11 d c and 11 d c in next loop, then 6 d c in same loop as 6 d c is already worked into; turn the work, do 10 chain, miss 13 d c and do 1 d c on next stitch, 10 chain, miss 6, 1 d c in next, 10 chain, 1 s c on first d c stitch of this present row. Turn the work to the right side, and in the first loop of 10 chain work 4 d c and 1 picot 3 times; in the next loop of 10 chain work the same, and in the third loop of 10 chain work 4 d c and 1 picot twice and 4 d c besides, then 1 d c under the same loops as 12 d c are already worked into. Now work into the next 9 chain loop of last round, *12 d c; turn the work, and (inserting the hook to take up the back threads, so that the work may set in ridges) on these 12 d c, miss 1, and do 10 d c, turn, miss 1, and do 7 d c; turn, miss 1 and do 5 d c; turn, miss 1, do 3 d c, turn, miss 1 and do 1 d c; turn, and slip

the round in which you have 15 d c across, work a long t c, do 3 more long t c in same place, then 3 d c on last round, then 4 more long t c in same place as the others, and do 11 d c on the last round; repeat same on all sides of the cross.

Next round—All d c as usual.

In next round, make 1 tuft of 4 long t c between the tufts already formed.

Next round—Work as usual 10 d c up the first side and 3 d c at the corner, and d c across the top to center stitch of next corner, where work 1 d c only, not 3, then 15 chain, and go to the center stitch of next corner, d c across top, and do 15 chain to the center stitch of next corner, then across the top, and at the next corner do 23 chain, work across the top, and do 23 chain at next corner; join and fasten off. Now hold the work the wrong side towards you, and leaving 11 chain, commence on the 12th; do 3 rows of d c, working extra stitches at the two top corners (the 15 chain corners) to keep a flat surface, and keep entirely along the two sides and the top, leaving the bottom of the cross as it is.

Next row—Do long t c, 2 rows of d c, then a row of long t c, 2 more rows of d c, then a third row of long t c, 5 rows of d c, next a row of double long t c (thread 3 times around the needle) followed by 6 rows of d c. Then s c all around the piece of work, and fasten off.

SMALL STARS AT CORNERS.

Seven chain, 1 s c in fifth chain from needle, 2 chain, join to the center stitch of corner, 2 chain, 1 s c in last s c, 4 chain, 1 s c in same, 2 chain, 1 d c in first chain of all; repeat this. Work the same for the other three corners. Take the two pieces of the tidy, sew them neatly together along the top and down the two sides, leaving 16 leaves for the bottom.

For the fringe, with No. 6 crochet needle 1 d c in a stitch, *40 chain, 1 d c in next stitch of tidy; repeat from * all around bottom. If liked better, a fringe may be knotted in. Put a sateen lining in, and the tidy is finished.

A "NUT CRACK."

Little Polly Anderson had been worrying her brain for several days over a projected party. She wished to offer something new and pleasant to her city cousins who were visiting her, and every well-known form of entertainment seemed worn out.

"You see, mother," she said, confidentially, "we cannot afford oysters; apples and pop-corn are old, and I can think of nothing but nuts. We have lots of them, but how could we give a party with just a few bags of nuts?"

Her mother smiled at the anxious look on the face of her eighteen-year-old daughter.

"You might give a 'nut crack.' We used to have something of that sort thirty years ago."

After considerable planning, Polly went to her room to write invitations to a "real unique party," as she whispered to the city cousins on the way upstairs.

One of them painted a tiny bunch of chestnuts in the upper left-hand corner of each card, while Polly, with brown ink and gilding, wrote the following words:

The pleasure of your presence is requested at a "nut crack" next Thursday evening, January —, 18— POLLY ANDERSON.

"That is certainly short and sweet enough to make everybody wonder what it means," she said, scaling the last envelope. "I want you girls to think of everything new you can possibly imagine for Thursday evening."

The following days were spent in decorating the roomy farm house and selecting costumes. The three girls decided to dress in brown, as they all happened to have a brown dress, and a few yards of soft, creamy, woolen lace brightened them up wonderfully. Salmon pink ribbon was used as finishing touches to each dress.

The parlor and sitting-room was filled in every corner with sprays of cedar and holly, together with pressed autumn leaves, bunches of gilded acorns and sprays containing other nuts silvered or gilded with Diamond paints.

The dining-room was no less bright and woody with the same things. The long table gleamed with a white cloth. A great

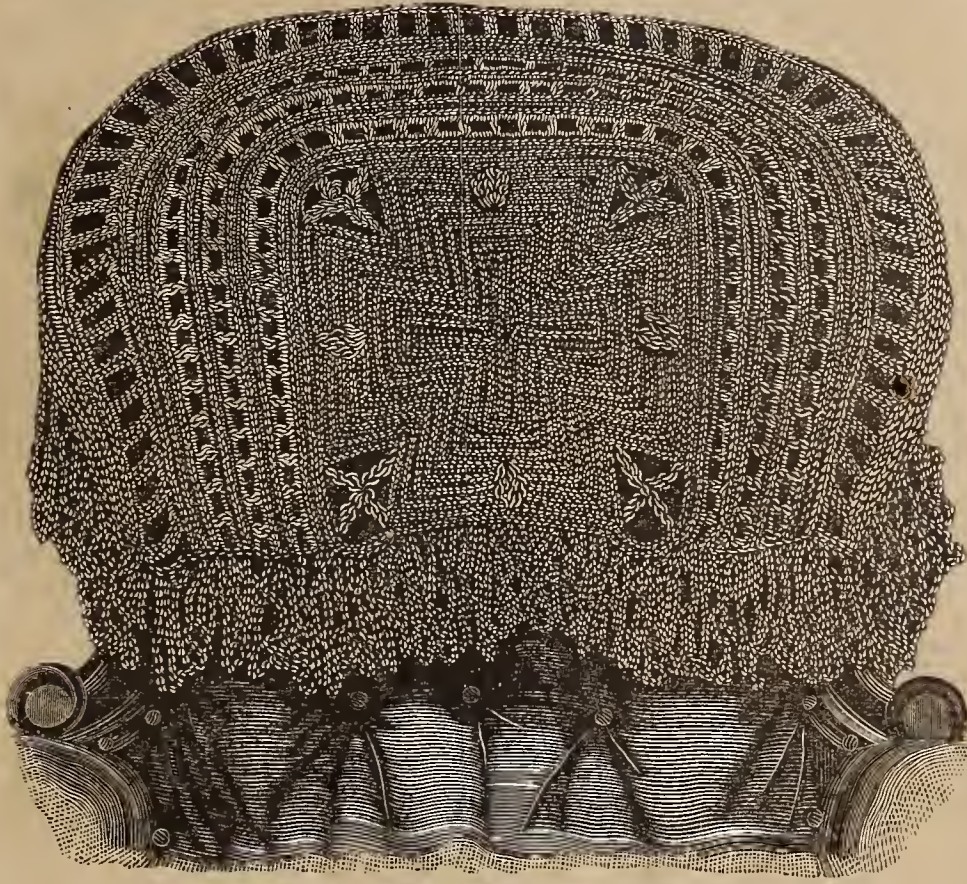
pyramid of nuts stood at either end, while a large, white cake, well decorated with whole hickorynut meats, stood in the center. Two large pitchers of iced lemonade, with plenty of glasses, held places of honor, for eating nuts is very thirsty work.

On a small table in the cheerful kitchen was a pan of large hickorynuts, with a hammer and iron to crack them with. Each gentleman present was expected to crack a given number of nuts, and the one able to save the most whole meats was to receive a set of cheap nut-picks as a prize. It might be as well to add that there were twelve new horse-shoe nails in a small, satin-lined box of the girls' own invention.

A pan of butternuts were ready to try the ladies' skill, as the one who was able to crack the most "without pounding a finger would receive a cute little basket cut from a large hazelnut. Polly said it was very comical to see a dainty girl grasp the hammer and poise it over a rough butternut held on one end.

Small dishes held various kinds of nuts on the supper-table, while a small saucer at each plate contained a quarter of a cocoanut. With the nuts were served cocoanut cake, hickorynut cake, cream walnut cake, butternut puffs, and bars of home-made peanut candy.

HICKORYNUT CAKE.—Two cups of sugar, one cup of butter, one cup sweet milk, the whites of four eggs beaten stiff, two teaspoonfuls of baking-powder, and flour



REVERSE SIDE OF HOODED TIDY.

to make a stiff batter. At last stir in two cups of hickorynut meats broken fine. Bake in large loaves, and ice.

CREAM WALNUT CAKE.—Make four layers of any light jelly cake recipe. Take two cups white sugar, one third cup water, a large spoon of butter, and flavor with vanilla. Boil five minutes, stir until nearly cool, and spread the cakes. Place English walnut meats upon each layer before the cream hardens. Decorate the top with the same. It is necessary to have the cakes baked before making the cream, and they must be put together in haste.

BUTTERNUT PUFFS.—One cup butter, one half cup flour, one half cup water; boil together until like a lump of putty. When cool, add two well-beaten eggs and bake one hour in a hot oven. They should be dropped in balls on floured tins. When done, they should be hollow. Fill the inside with chopped butternut meats, salted.

Every guest was requested to give a quotation from some author which should contain the word nuts, the company to guess the author. This occasioned a great deal of fun. Music and games finished the pleasant evening, and all went home voting the "nut crack" a great success.

MARION WASHBURN.

THE WORRY OF A CONSTANT COUGH, and the Soreness of Lungs, which generally accompany it, are both remedied by Dr. Jayne's Expectorant.

CHEESE.

Many housekeepers do not know the value of cheese as a diet. It is particularly suited to the farmer's household, as it can be kept on hands, and prepared in a variety of ways that will be found excellent. As all cooks are not familiar with the various recipes for cooking cheese, the following will be found useful to such:

TOASTED CHEESE.—Cut slices of cheese thin, spread it on a heated dish and stand over boiling water to melt. Toast slices of stale bread, and butter, season the cheese with salt and a little cayenne pepper, spread over the toast and serve very hot.

WELSH RAREBIT.—Take square slices of stale, light bread, without crust; butter them, and dip in a bowl of hot water. Lay on a heated dish, and set to keep warm. Put half a pint of milk in a small sauce-pan; stand it over a moderate fire; when boiling, add a pint and a half of grated or crumbed cheese, and stir until it melts, season with a little salt and pepper, add the yolks of two eggs, stir, and pour over the toast. The mixture should not be tough or stringy.

CHEESE FINGERS.—Mix four ounces of flour, five of grated cheese, a little salt and pepper together, moisten with the yolk of one egg; work into a smooth paste. Roll very thin, cut some of the paste in little rings, and some in strips. Lay on greased paper, and set in a hot oven for ten minutes. Put the straws, or little strips, through the rings in bunches.

When done serve, very hot, on a folded napkin.

CHEESE FOR LUNCHEON.—Trim slices of bread free of crust, and grate into a small baking-dish, pour in a little sweet milk; break over half a dozen eggs, season with salt and pepper, grate over the top a thick layer of cheese, and set in the oven to bake brown.

POUNDED CHEESE.—Pound half a pound of dry cheese with two tablespoonfuls of butter, add a teaspoonful of mustard, a little cayenne pepper and pounded mace. Spread on bread, and eat.

CHEESE FONDEE.—One tablespoonful each of butter and flour, three tablespoonfuls of grated cheese, half a teacupful of milk, three eggs, a little salt and white pepper. Melt the butter, stir in the flour, add the milk, let cook, season, and stir in the beaten eggs, then the cheese; pour in a butter-mold, cover with a buttered paper, and bake.

CHEESE OMELET.—Beat four eggs, add half a teacupful of grated crackers and three tablespoonfuls of grated cheese; pour in hot pan, and fry.

POLENTA.—Put a spoonful of butter in a quart of boiling water, wet corn meal with cold water, add salt, and mix smooth, put in the boiling water, let boil; take up and set to cool; when cold, make into a ball and let stand half an hour, cut in thin slices, lay in the bottom of a deep dish, put on it thin slices of cheese, cover with bits of butter; then put more mush, cheese and butter, until the dish is full; put the cheese on top, set in a quick oven and bake.

ELIZA R. PARKER.

A CO-OPERATIVE DINNER.

Have any of our FARM AND FIRESIDE band tried this new style? For genuine fun and enjoyment on a holiday, such as Thanksgiving or Christmas, nothing can equal it. It is generally best to include in your circle relatives or a few very intimate friends. The plan is to have each course furnished by a different cook. For instance, suppose we are all going to grandma's to spend Christmas. Grandma will set the table and make coffee; Aunt Sallie brings the turkey, nicely steamed and stuffed, ready to go into the oven to brown, with its accompanying cranberry sauce; Uncle Joe's wife brings some lovely potato croquettes and oyster patties; Aunt Bess is on hand with her far-famed chicken salad, sweet pickles and cookies. Then the young gentlemen have a chance to distinguish themselves by the good ice cream they furnish, while the girls are justly proud of their cake, home-made candy and salted almonds. The immense responsibility of delicious mince pie could be borne by no one else so suitably as our dear, fat, Aunt Prudy, who cannot be excelled in that line. She thoughtfully sent some dainty bits of cheese to accompany the pies. Grandpa said he was not to be left out in any such style, so he came in with two cans of oysters under one arm and a big bunch of celery under the other, and the women folks laughed until the tears came, to see his awkward attempts in the culinary department, but when he rolled up his sleeves and began his oyster soup, we found out that he could be depended on for the first course all right.

Well, things were brought on the table in their order, and, of course, grandma supplied all deficiencies. Such fun as we had when the men folks drew cuts to see who should *carve the turkey*, and preside. Uncle George, who is just raising a faint down on his upper lip, blushed like a girl, when we told him that he was "the unlucky chap to carve the turkey, and it might be as well to learn such things now, from all indications." No one dared to criticise, you see, for we were all concerned in the success of the dinner. If you have not done so yet, try the co-operative dinner.

EFFIE WHIPPLE DANA.

Cheyenne.

FRENCH MUSTARD.

Stir up one cup of mustard with vinegar enough to thin it nicely, add a teaspoonful of white sugar, a quarter of a teaspoonful of salt; beat well, and set on the stove to come to a boil. When cool, bottle for use.

C. I.

LEMON EXTRACT.

Take the pulp of two lemons and the peel of four, pour over it half a pint of alcohol, let stand one week, then strain out the pulp; return the skin, let stand another week and strain again.

MRS. H. V. S.

Our Household.

CULINARY HINTS.



HOUSEKEEPERS dread to see the inquiring expression on the countenance of Bridget which precedes the question, "Please, ma'am, what shall I get for breakfast?" And in families where there is no Bridget the case is still more trying. One who has never attempted it cannot imagine the mental effort which is required to invent daily three bills of fare, which must keep in view the contents of the larder, the health and taste of each member of the family, and the various affairs of the day which are likely to demand the attention of the cook and the use of the range, to the detriment of culinary matters. Now for the suggestion. Select whichever one of the lighter meals you please, breakfast, luncheon or tea, and make the experiment for one month of having that meal very simple and uniform. You will find it more satisfactory in the end if you persist in having the bill of fare invariable, for every one will become accustomed to its simplicity sooner, and if you try to vary it ever so little you will fall back into your old habits almost without knowing it. If it is breakfast, and your family are oatmeal eaters, let your table show only porridge, bread and butter, coffee and milk. If they do not appreciate

The halesome parritch, chief o' Scotia's food, you can substitute some sort of baked or stewed fruit, or boiled eggs. Let everything you have be the best of its kind—clear, golden coffee with cream, fresh bread and nice butter—and although it may seem at first a very poor breakfast, the family will soon become accustomed to it, and will be all the better in health for living more simply. Some families will prefer to take their plain fare at night. A cup of nice tea and dainty slices of white or brown bread and butter will be found more conducive to quiet rest and peaceful dreams than the mixture of hot biscuits, cold meat, jam and cake, which is usually set forth. Make the table look as attractive as possible with immaculate linen and pretty china. If you are to have simple food, you can at least put the "butter in a lordly dish," and try to make everything look dainty and appetizing. Depend upon it, a plain breakfast or tea served in this way will prove more acceptable than a carelessly-cooked variety set forth in ordinary dishes on a soiled table-cloth.

You will be surprised to find under how many fanciful names the homely stew masquerades, writes Sallie Joy White. We all know the plain Irish stew, with its vegetables and dumplings cooked with the meat. I dare say many of you have often wondered, as I used to do when a little girl, while puzzling over the queer names in the cookery books, what a ragout might be. Well, it is nothing more nor less than our friend, the stew, highly flavored with wine. A salmi is a stew of game, usually made from the left-over pieces of a game dinner; this is also quite highly flavored, oftenest with currant jelly. A haricot is a stew with the meat and the vegetables cut fine. Of course you all know that a chowder is a stew of fish, clams or oysters; and that a fricassee is a stew in which the meat is browned in fat, either before or after cooking in the hot water, and is served without vegetables. A pot-pie is a stew in which the dough is put on as a crust, covering the whole top of the kettle in which it is cooked, instead of being used in balls as dumplings.

Now, for one simple stew, one called in the Liverpool school an Exeter stew. Use for every half pound of beef, half an onion, one quarter each of turnip and carrot, two potatoes, salt and pepper to taste, a little flour, and water enough to cover. Wipe the meat, cut it into small pieces, removing any bits of crumbly bone that may adhere to it. Put the larger bones into a kettle and cover with cold water; melt the fat of the meat, brown the sliced onion in it and skim them out as soon as they are a fine, yellow brown; dredge the bits of meat with flour,

sprinkle them with salt and pepper, and brown them in the onion-seasoned fat. Put them and the onions into the kettle in which the bone is boiling, and add enough boiling water to cover them. Simmer from two to three hours, or until the meat is tender. Half an hour before serving add the other vegetables, which should have been cut into small dice; twenty minutes before serving add the potatoes, which should have been washed and pared, cut into quarters and parboiled five minutes. You should take out the fat and bone before adding the vegetables. When ready to serve, skim out the meat and potatoes upon a hot platter, thicken the gravy if you think it necessary, add seasoning, then pour it over the meat. Half a cup of stewed tomato that has been strained is an excellent addition. If you make this stew successfully, you will no doubt eat it with keen relish.

HEALTH NOTES.

Sir William Gull says that when fagged out by professional work he recruits his strength by eating raisins, and not by drinking wine or brandy. Another good saying from the same source: A pint of warm water, taken on an empty stomach in the morning, is the safest and surest of all remedies for habitual constipation. It dissolves the fecal matter and stimulates peristaltic action, thereby giving a normal action without pain. If the tongue is coated, squeeze a lemon into the water and drink without sweetening.

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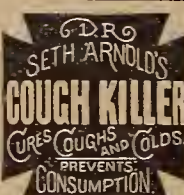
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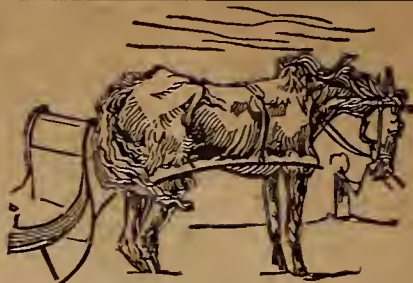
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Our Sunday Afternoon.

NEW-FASHIONED SINGIN'.

FORE Sue went ter town ter school,
She sung as nat'ral as a bird;
She didn't warble then by rule,
But when her pipin' voice I heard
I'd quit work jest ter hev a tune;
The men about the place did, too;
But sence she came from school last June,
She don't slug like she used ter do.

In singin' I'm a tarna! dunce;
Somehow I can't stick ter an air;
But when a lot sings all ter once,
I growl a few words here and there.
But Sue, a baby, tired of play,
Inter her mother's arms 'ud creep,
An' in her drowsy little way,
She'd kind o' sing herself ter sleep.

I liked her hymn tunes mighty well;
Her hymns in gen'ral struck me right,
Like "Dennis" and old "Silver Street;"
And there was one—my favorite.
Now how was it that tune began?
I only recollect a hit—
"Her brow was like a snowdrop an'
Her throat was like the swan's," that's it.

An' then, there was a song about
"Endearin' young charms" au' ez how
If she should lose them charms, no doubt,
The feller'd love her just ez now.
An' one about a gal whose beau
Was not well-fixed and went away;
Then, ez her father's funds was low,
She took a chap named "Robin Gray."

An' now all day she caterwauls
Four hours or so, an' never fails
At lots o' monkey shines she calls
Her exercisin' an' her scales.
The same consists o' prancin' roun'
With whirligigs and curleykews,
An' caperin' up an' dwindlin' down
With no more tune than squeaky shoes.

An' if so he her ma observes,
"Yer pa would like ter hear ye sing,"
She then begins ter rack my nerves
With some consarned Eytalian thing.
These songs that's writ in furrin tongues
Are mighty high-toned tunes, maybe;
They may be good ter test the lungs,
But words jest makes a song fer me.

I don't enjoy her slugin' much;
I s'pose my taste is kinder rough;
An' all the things she's learned is such
Gymnastic, hyfalutin' stuff.
Then her hymn tunes now she says is queer;
I alu't no doubt but what that's true;
But still I wisht she'd let us hear
The old songs, like she used ter do.

—Henry B. Smith.

SLAVES TO APPETITE.

I WONDER how many men and women have seriously thought of this subject in its true light? I have seen people who were great temperance folks, and would preach abstinence from liquors, and those same persons would go home, sit down to the table, and eat such a big dinner that afterwards they would say they ate so much that they were in misery. Now, what would you call that but intemperance and being a slave to your appetite? I have seen a host of people dyspeptics simply from their immoderate eating. The good book says be temperate in all things, in eating as well as drinking, in keeping your temper down and controlling it; but of all things, be temperate in eating. Just look around you and see all the sickness caused, nine times out of ten, by overeating. Mothers allow their children to eat too much at the table. I believe as much in mothers training a child's appetite as I do in training him to be a good child. Don't give your one-year-old child peas or onions or pickles, or bread hot from the oven and soaked with butter, or perhaps rich preserves and a slice of cheese, and then wonder why baby was so cross, or what made him have cholera infantum that night.

I never did allow my children to eat anything and everything placed upon the table where grown people eat. I have been visiting at times, and they would say, "Oh, give such and such things to him, it won't hurt him," when I had the experience of cholera infantum and an almost sleepless night with that child from the effects of it. I make it a rule never to give a child anything to eat without consulting the mother. She, of all persons, if she is a plain, common-sense person, should know what her child should have. I don't believe in letting children, two and three to six years old, sitting at table with grown folks and eating all it

wants (or any at all) of pickles, pepper-sauce, preserves, and all kinds of meat. This world has got to change its mode of immoderate eating, as well as drinking, before there will be a thorough temperance reform.

Being a slave to the habit of drinking tea and coffee, I might say, is almost universal. Who has not had company that were lost at table without their tea or coffee? I had a neighbor once who was prostrated with violent sick headache if she missed her tea at dinner or the evening meal. Is not that just as bad as a man having headache from missing his toddy or glass of beer? Again, I had another neighbor that was a slave to her appetite for beer. I have often seen her send her six-year-old son into a near-by saloon for a bottle of beer for supper. If that boy is a drunkard, who can you blame, as both he and his sister partook freely of beer at supper? Oh, I think if that mother only could have considered seriously once, she would have seen her folly and danger toward her children. I can go a week or a year without tea or coffee and be none the worse for the absence of it. Mothers, don't be slaves yourselves to tea and coffee, and don't allow your children to use them at all. A glass of milk is far superior, and not having that, a glass of water is much preferred to tea or coffee. Never allow the habit, and there will be no serious consequences nor slaves to tea or coffee.

A hoy has got to be taught that it is intemperance to eat too much, as well as to drink alcoholic stimulants, before he can be a temperate man. How can he be temperate and not a slave to appetite until he is taught to do without things when his appetite craves them, be it pickles, preserves or anything else? A mother should notice how much a child can digest and what agrees with him, then gauge his food. Don't let him stuff crackers, candy and nuts between meals, and then wonder why he eats no dinner. Have as regular hours as possible for a child's eating, from infancy. Mothers, your responsibility in regard to this matter is a serious one—teach your children to be temperate in eating as well as in drinking, if you do not want them to be slaves to their appetites. I verily believe that many thousands of men have been made drunkards by being allowed to eat immoderately of all kinds of strong, spiced food, pickles and pepper-sauce, and having the appetite under no control. How could they control their appetite for alcohol, when they were never taught to control their appetites in eating? M. H. PASCHALL.

Florida.

INTOLERANCE.

If there be men of thought and learning who can accept without hesitation the whole of Christianity as popularly taught (and many clever men maintain that the whole thing, from Genesis to the Revelation, stands or falls together), men to whom the fall, the flood, the life and still more the deathbed of "the man after God's own heart" ("God the same yesterday, to-day, and forever"), Elijah and Elisha, the curse and the blessing pronounced by the same authority on the same man for the same act; to whom these and a hundred more things like them create no difficulty, let them thank God with all their hearts that he has heard their prayers and blessed their lives. But let them not dare to judge or to condemn other men, as much in earnest as themselves; who seek after truth as simply and as purely; whom "honest doubt" assails not always quite without success; who do sincerely try to prove all things that they may hold fast that which is good; who desire to give a reason for their faith, but who find that reason very hard to give after the lapse of twenty centuries and since the changes wrought in the whole conception of heaven and earth by science, which is as much a revelation from God as any other; men who pray for faith which is not granted them in full measure, for light which does not come unclouded, for certainty they cannot attain to. We must all, men of faith, and men of doubt, stand or fall at last by the earnestness and sincerity with which we have striven to see God's will and to do our duty.—Lord Chief Justice Coleridge, in the New Review.

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is not in magic potions, "specifics" or electric clap-net, but only in WISDOM—THE SCIENCE OF HEALTH. Wise men study nature, shun disease learn to maintain vigor and regain it by reading the most complete book of Medical, Social, Sexual Science, by an eminent physician of 35 years experience. The "old, original, standard" work, endorsed by all, imitated by many, equalled by none. Inspired by wish to aid humanity, it has providentially saved thousands. Its essays on marriage, parentage, adaptation, marital failures, etc., are of inestimable value to all now married or who ever expect to be. The last edition has 1,000 pages, 3 colored charts of vital organs, 200 wood cuts, 21 chromos showing origin of life—development of man. APPENDIX has over 200 Recipes. Only \$1.50 by Mail; Circulars Free. MURRAY HILL BOOK CO., 129 E. 28th St., N. Y. "LIBERAL DISCOUNTS TO AGENTS."

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SEND us your address and we will make you a present of the best Automatic WASHING MACHINE in the World. No wash-board or rubbing needed. We want you to show it to your friends or act as agent if you can. You can COIN MONEY. We also give a HANDSOME WATCH to the first from each county. Write quick. Address N. Y. LAUNDRY WORKS, 25 Dey St., N. Y.

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\$20 IMPROVED HIGH ARM PHILADELPHIA SINGER. 15 days' trial. Warranted 5 years. Self-setting needle, self-threading shuttle. Light-running and noiseless. All attachments. Send THE C. A. WOOD CO., for free 17 N. 10th St., Phila., Pa. circular.

10 CENTS pays for your address in DePuy's Agents' Directory which goes whirling all over the United States, and you will get hundreds of samples, circulars, books, newspapers, magazines, etc., from those who want agents. You will get lots of good reading free and will be well pleased with the small investment. List containing names sent to each person answering. CLARENCE C. DePUY, Syracuse, N. Y.

Smiles.

THE BARNSTORMERS.

The play was bad, the players worse,
And tired of the hisses and jeers,
The kerosene lamp and the gas went out,
And the seats rows up in tiers.
—Cleveland Town Topics.

A NEW VERSION.

The June bug and the lightning bug
In summer time appear;
But the bedbug is the biggest bug;
He gets there all the year.
—Washington Hatchet.

IT WASN'T ANGELS HE HEARD.

It was a sad scene. The old man lay on his bed, and by him sat the faithful wife, holding his worn hand in hers, and forcing back the tears to greet his wandering look with a smile. She spoke words of comfort and of hope. But he felt the cold hand falling on him and he turned his weary eyes up to the pale, wan face.
"Jeunie, dear wife, I am going."
"Oh, no, John; not yet; not yet."
"Yes, dear wife," and he closed his eyes; "the end is near. The world grows dark about me. There is a mist around me gathering thicker and thicker, and there, as through a cloud, I hear the music of angels—sweet and sad."
"No, no, John, dear; that isn't angels; that's the brass band on the corner."
"What!" said the dying man. "Have those scoundrels dared to come around here when they know I'm dying? Give me my boot-jack. I'll let 'em see."
And in a towering rage the old man jumped from his bed, and before his wife could think he had opened the window and shied the boot-jack at the band.
"I've hit that Dutch leader, anyway."
And he went back to bed and got well.—San Francisco Chronicle.

LOOK OUT FOR OTHER SISTERS.

"Now, then, Jennie," said the bridegroom to the bride, after they had returned from church, where the knot had just been tied, "how many brothers have you?"
"Brothers!" exclaimed the bride in astonishment, "you know I haven't any brothers. I'm the only child of my parents."
"Oh, I know that; but how many young men did you promise to be a sister to before you accepted me? Those are the brothers I want to know about."
"Well," replied the bride, smiling, "I think I must have about half a dozen of brothers."
"All right. You just drop a note to each of them and tell them the brother and sister business is all off now, as you have got a husband. If they want sisters, tell them to look around among the girls that are single. I'm all the brother you need now."

STRICTLY BUSINESS.

Western land agent—"I wish to withdraw my big advertisements of city lots for sale in Riverside Addition."
Newspaper editor—"Eh? What's the matter? Don't you consider my paper a good advertising medium?"
"Oh, yes, the paper is all right; but I don't care to attract attention to those lots for awhile now. We are nearing the season of the year when that land is generally under water."

THAT AWFUL BROTHER.

"I hope you will pardon my late arrival," said the young man, as he seated himself in the easiest chair. "I forgot my umbrella, and had to stand in a stairway until the shower was over."
"That's one on you, Jenny," shouted Tommy, in great glee. "I told you so. Of course he had sense enough to go in when it rained."
And the silence, like a soft hat, was plainly felt.—Terre Haute Express.

NOTHING WHEN YOU ARE USED TO IT.

"Yes, it seems hard to hang four men at once, but the Ohio law is more severe. I tell you, it is pretty tough to wake a man up at two o'clock in the morning and take him out and hang him."
"Oh, they get used to it."
"Who get used to it?"
"Why, the men that wake 'em up."—Judge.

A MISAPPREHENSION.

Young widow—"Mr. Preachley, will you marry me?"
Mr. Preachley—"Well, really, Mrs. Buckner, this is so sudden, and—"
Young Widow—"Oh, well, take your time to think it over. Mr. Harkins and I thought we'd like to have you perform the ceremony for us."—Harper's Bazar.

CATARRH CURED.

A clergyman, after years of suffering from that loathsome disease Catarrh, and vainly trying every known remedy, at last found a prescription which completely cured and saved him from death. Any sufferer from this dreadful disease sending a self-addressed stamped envelope to Prof. J. A. Lawrence, 88 Warren Street, New York, will receive the recipe free of charge.

GRATITUDE.

Mr. Brown (to stranger who has saved him from drowning)—"My dear, good friend, I'll never forget you as long as I live! Come up to my store and get some nice, clean, dry clothes; I'll let you have them as cheap as anybody!"—Epoch.

MONEY TELLS.

Squidig—"What a thin girl Miss Rocks is!"
McSwilligen—"On the contrary, she has a well rounded figure."
Squidig—"What?"
McSwilligen—"She has a well rounded figure—\$1,000,000 in her own right."—Lowell Citizen.

A GENTLE HINT.

Old Mr. Grump (at the door)—"Maria!"
Miss Grump—"Yes, papa."
Old Mr. Grump—"If that young man is troubled with insomnia, jest tell him we've got a spare bedroom upstairs with a copy o' Dr. Fourthly's sermons on the table."—Life.

ENGAGEMENT ANNOUNCED.

"Clara," he whispered, ardently, "do you think you could bring yourself to marry me?"
"No, George," she answered with a sad smile. "I couldn't very well bring myself; I'm so timid. You might bring me, though, George."

PRECISE.

Mrs. Pancake (in dry goods store)—"Will these goods wash?"
Clerk—"No, ma'am; but they may be washed."

LITTLE BITS.

Some men get appointed to office, and others get disappointed.

The musical critic should necessarily be a man of good sound judgment.

Dog fanciers tell us that ocean greyhounds come higher than skye terriers.

Time flies, yet the orchestral leader sits still and beats time.—Richmond Dispatch.

Being asked the name of the world's greatest composer, a smart university young man said: "Chloroform."—Philadelphia Record.

"Not every one is happy who dances," says a Spanish proverb. This is at least true of the man who has just stepped upon a tack.

The gentleman who discovered that his wife was putting her pin money in the bank against a rainy day, now calls it her safety-pin money.

Teacher—"Why should we all reverence George Washington?"

Sammy—"Cos he never got caught in a lie."—Terre Haute Express.

Muldoon—"I say, McCarthy, did you vote wid yer party?"

McCarthy—"Did I vote wid me party? Seven times."—Saturday Evening Herald.

"Poverty is no disgrace," said Jinks. "In many cases it is something to be proud of."

"Yes," replied Jones; "it's a constant struggle for me to keep my pride down."—Merchant Traveler.

"Now, really, what was the most astonishing thing you saw in Paris, Mr. Spicer?" asked Miss Gusher, and without a moment's hesitation Seth answered, "My hotel bill."—Boston Bulletin.

A SACRIFICE—"Do you sell postage stamps here, bub?" asked old Mrs. Bargin, entering the drug store.

"No'm," returned the boy; "we just give them away at cost."—Puck.

A good memory is a blessing, says a writer. And it may be remarked that it is one that wealth cannot buy. Look at the man who becomes suddenly rich. He cannot even remember the faces of his old friends.

There was trouble in a New York boarding house the other day. A boarder asked a red-headed waiter girl if she had any white horse-radish. She had heard enough of the white horse and the reddish girl, and she hit him with a sugar-bowl!—Chicago Herald.

SUSPICIOUSLY POOR.—Editor of daily newspaper—"Is this poem original?"

Poet—"It is; why?"
Editor of daily newspaper—"Nothing, only it doesn't seem to mean anything. (Suspiciously)—You ain't trying to palm off an old monthly magazine poem on me, are you?"—Time.

Two Boston men have laid the foundations for big fortunes. One has invented a cookie which a boy can eat in bed without any crumbs falling on the sheets, and the other has brought out a wire holder to be fastened on the bedpost to receive a quid of gum and keep it safely. One Boston girl has ordered two dozen of these holders.—Detroit Free Press.

A Chicago man who was a guest at the Eagle Hotel in Poughkeepsie, after the dinner was over, said, "What have you got for dessert?" The waiters said, "Pie." "What kind?" "Well," said the Chicago man, "bring me mince, lemon, apple, custard and pumpkin." "Well," said the Chicago man, "bring me mince, lemon, apple and pumpkin." The waiter: "What in thunder is the matter with the custard?"

HOME STUDY. Book-keeping, Business Forms, Penmanship, Arithmetic, Spelling, etc., thoroughly taught by MAIL. Circulars free. BRYANT & STRATTON'S 449 Main St., Buffalo, N.Y.

PAINLESS BEECHAM'S PILLS EFFECTUAL

THE GREAT ENGLISH MEDICINE WORTH A GUINEA A BOX

For Billous and Nervous Disorders, such as Wind and Pain in the Stomach, Sick Headache, Giddiness, Fulness, and Swelling after Meals, Dizziness and Drowsiness, Cold Chills, Flushings of Heat, Loss of Appetite, Shortness of Breath, Costiveness, Scurvy, Blisters on the Skin, Disturbed Sleep, Frightful Dreams, and all Nervous and Trembling Sensations, &c. THE FIRST DOSE WILL GIVE RELIEF IN TWENTY MINUTES. This is no fiction. Every sufferer is earnestly invited to try one Box of these Pills, and they will be acknowledged to be a Wonderful Medicine.—"Worth a guinea a box."—BEECHAM'S PILLS, taken as directed, will quickly restore females to complete health. For a

WEAK STOMACH; IMPAIRED DIGESTION; DISORDERED LIVER; they ACT LIKE MAGIC:—a few doses will work wonders upon the Vital Organs; Strengthening the muscular System; restoring long-lost Complexion; bringing back the keen edge of appetite, and arousing with the ROSEBUD OF HEALTH the whole physical energy of the human frame. These are "facts" admitted by thousands, in all classes of society, and one of the best guarantees to the Nervous and Debilitated is that BEECHAM'S PILLS HAVE THE LARGEST SALE OF ANY PATENT MEDICINE IN THE WORLD. Full directions with each Box.

Prepared only by THOS. BEECHAM, St. Helens, Lancashire, England. Sold by Druggists generally. B. F. ALLEN & CO., 365 and 367 Canal St., New York, Sole Agents for the United States, who, (if your druggist does not keep them,) WILL MAIL BEECHAM'S PILLS ON RECEIPT OF PRICE 25 CENTS A BOX.

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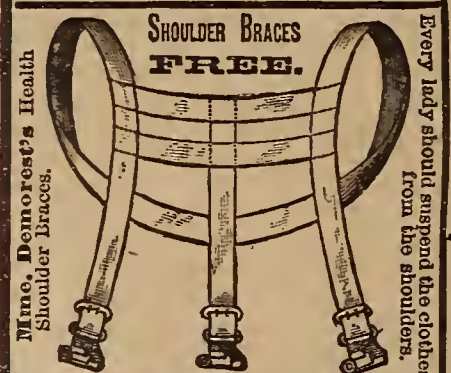
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17 EAST 14th STREET, NEW YORK.

This offer should be taken advantage of at once as we will give away no more than 100,000 of each article. SHOW THIS TO YOUR FRIENDS. IT WILL NOT APPEAR AGAIN. We know the Demorest Fashion and Sewing Machine Co. to be a thoroughly reliable firm and advise our readers to accept their offer.—EDITOR.

Old Dr. Brown's Safe Open



DO YOU WANT MONEY?

\$13,000,000 is a Big Money to Give Away, but as I have got rich myself, I am ready to help others in my advancing years. It has always been said, when Old Dr. Brown opens his Safe Door, it would be a Grand Sight. You can now look on the inside. I am now ready to let you into the Secrets of Money Getting. Some persons, assisted by me, have made from \$2,000 to \$20,000 in ONE YEAR.

A Fortune For All

YOU CAN DO THE SAME. Young or Old, Lady or Gent, money does not keep. It is going to be put out; now be sure and come in for your share. All want to get rich, we should all enjoy the Comfort of Life. I will (through my agents) give this Bag of Gold to the first one guessing the correct number of Silver Dollars in the pile under it, and distribute this pile of bills held in my hand, ranging from \$1 to \$100 each, to those coming the nearest, as soon as 13,000 answers have been received. All you have to do is to enclose 12 cents with each guess you make, simply to pay for registering, etc., and I guarantee to send every one a box of goods FREE, that you can realize a fortune from, if directions are followed.

As millions will read this notice, 13,000 answers should come in thirty days.

Guess How Many Silver Dollars are in the Pile. This is a free gift to every one. Address Old Dr. Brown, Box 1675, Augusta, Me.

SPECIAL. To every one sending 12 cents answering this advertisement before 30 days, I will enclose a Cash Certificate valued at 50 cents.

HORSE BLANKET HOLDER.

Keeps the blanket from blowing or sliding off the horse. Attached to any blanket in a moment. Ornamental nickel plate. Nothing like it in the market. A gold mine for agents. Sample set, 25 cents. One dozen sets, \$2.00 by mail. Stamps taken. Retail at 35 cents each. STAYNER & CO., Providence, R. I.

Plays 300 Tunes



If you want the Best send direct to the Makers. We will please you. Just what you want to make home happy. Send \$5.00 with this notice and we will send Organ at once, all complete. Satisfaction, or money refunded. Address BATES ORGAN CO., 74 Pearl Street, BOSTON, Mass.

A sample organ FREE. If you want one, cut this notice out and send to us at once.

DO YOU WANT CO-OPERATION REDUCES COST

Write to the KEystone WATCH CLUB CO., 904 Walnut Street, Philada., for full particulars of their plan.

100 CHANGES CAN BE made with that

King of Novelty, the Convertible Basket. Agents without experience make \$5.00 pr. day and hustlers more. Sample mailed 25c. Everybody buys them. Casgreen Mfg Co., 79 W. Madison St., Chicago, Ill.

CURRENCY of ye Olden Time.

1 \$40 Bill of 1773, 1 \$5 Bill of 1773, 1 \$10 Bill of 1776, 1 \$5 Bill of 1776, 124 Shilling Bill of 1773, 1 \$5 Bill of 1771, 1 \$3 Bill of 1775, 1 20 Shilling Bill of 1690. We will send the \$ills by mail for 10 cents HOME NOVELTY CO., Providence, R. I.

\$1250 Boys & \$550 Sewing Machine

proved Singer 60 days' trial. Free Catalogue. Warranted five years. OXFORD MFG. CO., CHICAGO, ILL.

MENTION THIS PAPER WHEN ANSWERING ADVERTISEMENTS.

Gleanings.

WOMEN'S WORK.

The SAN FRANCISCO *Call* suggests a society for lightening the burdens of women who have houses to keep in order, and says:

Does the shoemaker try to lighten women's work by sewing the buttons on honestly, or "tipping" the footwear with honest leather? Does the tailor who makes the pants with his boasted benevolence of "double knees" ever put them on the right place or large enough? Does the carpenter ever put the nails and hooks where a medium-sized woman, let alone a child, can reach them?

Is there ever but the fewest possible shelves that a woman can reach without standing on a chair, at the risk of breaking her back?

It is a very little thing to have no water-back to a stove, so a man thinks; but to a wife-of-all-work it is—well, there is no word strong enough to express the trouble it causes. A sink on a level, with cold water, is not an easy thing to keep clean. Why not make a little decline? Also bring the zinc over the edges somewhat. The continued settling of grease in the fine cracks or interstices is very trying to a delicate-stomached woman.

The bureau drawers that never open or shut without a trial of temper, why cannot they be made to run smoothly?

It should be declared a punishable offence to make a window that cannot be brought in to clean.

Men invented all these awkward and inconvenient things, and men made them, and they are responsible for the broken-down, haggard-looking women we see on the streets, or rather in the houses.

RESPECT YOUR OWN CALLING.

Much as we may feel chagrined and disgusted at the non-appreciation of our interests on the part of those who pull the wires and weld the rings in political manoeuvring, yet farmers can but admit, if they are candid and stop to study the situation, that they themselves are in a large measure at fault in the matter. Certainly, it belongs to farmers themselves first to respect their calling. Are they cultivating the feeling within themselves that theirs is the noblest calling among men, and are they educating into the minds of their children the same sentiment? Surely they can give but one answer to this question. Secondly, are they, with a brave front and a strong effort, coming forward in their united strength and asserting the rights, the privileges and attentions their business calls for? Certainly not. Then it is foolish to expect others to do it, and folly to lament that it is not done. Farmers, it must not be expected that others will come forward to do better for you than you are doing for yourselves.—*Secretary Gilbert, in Maine Farmer.*

THE HISTORY OF BUTTER.

Butter, which is almost indispensable nowadays, was almost unknown to the ancients. Herodotus is the earliest writer to mention it. The Spartans used butter, but as an ointment, and Plutarch tells how the wife of Deiotorus once received a visit from a Spartan lady whose presence was intolerable because she was smeared with butter. The Greeks learned of butter from the Scythians, and the Germans showed the Romans how it was made. The Romans, however, did not use it for food, but for anointing their bodies.—*Boston Globe.*

PROPER USE OF VEGETABLES.

Potatoes are the proper vegetables to accompany fish. All kinds of vegetables may be served with beef, although green peas are more appropriate for veal, mutton or poultry. Corn should never accompany game or poultry. With venison, currant jelly. Cabbage, apple sauce, parsnips, carrots and turnips should be served with pork. Macaroni with cheese should always accompany woodcock. Green peas and watercresses, wild ducks. Apple sauce, turnips, cabbage, wild or tame geese.—*Table Talk.*

SHE LOOKED DISTINGUISHED.

Newsboys naturally develop a quickness at reading faces as well as a freedom in asking and answering questions. One of this class was peddling his wares in a railway train, and in passing back and forth was struck with the appearance of a woman. She looked distinguished, and as he dumped his paper-covered novels into the laps of the other passengers, he passed her by.

At last his curiosity got the better of all other considerations. He found among his books one by Mrs. Stowe, and on his next trip he proffered it to the very dignified lady, but she declined it.

"Excuse me," said the boy, "but ain't you Mrs. Stowe?"

The stranger shook her head and disclaimed the compliment. The boy went down the aisle, but on his return he stopped again.

"Then perhaps you're Mrs. Stanton?"

The woman smiled, and again shook her head. But the newsboy was not to be baffled.

"Would you mind telling me who you are, ma'am?"

It is not likely that the fellow was much the wiser when the woman gave her name as Maria Mitchell. Probably he had never heard of our famous astronomer, but he was equal to the emergency.

"Well, I knew you was somebody!" he answered, triumphantly.—*Youth's Companion.*

UMBRELLA HANDLES.

Umbrella handles are getting quaint and grotesque. The most remarkable handles come from Paris. One that I have seen is a model of the wand carried by the jester of Henry IV, of France. Another umbrella had a dagger of oxidized silver for a handle. The "golden calf" formed a pretty handle and a costly one. An umbrella with a handle of tortoise shell, inlaid with silver, was useful as well as ornamental, for a powder-hox and puff were concealed in the handle. A Dresden china handle, mounted in silver, formed a scent-bottle. The stopper was the model of a ram's head, in silver.—*Pall Mall Gazette.*

MARRIED WORKMEN.

A western manufacturer has increased the wages of his married employees, and given single men notice that after a certain time, if they are not married, their services will not be required. This will perhaps be regarded by many as a mere whim, but it is based on sound business principles. As a rule, married men are more trustworthy, and consequently more valuable to their employers than single men. They have given "hostages to fortune."

CONSERVATISM vs. THE RAGE FOR NOVELTIES.

The Seed Annual for 1890, issued by D. M. Ferry & Co., of Detroit, Michigan, has reached our table. Its cover this year is especially artistic and attractive, and its contents as usual, interesting and instructive. Ferry's seeds are thoroughly reliable, and always come true. The directions given in the Annual for the cultivation of both flowers and vegetables are so full and explicit that no one can fail of success who use their seeds and follow the instructions.

D. M. Ferry & Co. are very conservative, both in offering new sorts and in their claims for them when offered; but they take pains to inform themselves as to the true character of all new varieties, so if some much lauded novelties are not found in the Annual, the probability is they have tested them and found them of no value.

A request sent to the firm at Detroit, Michigan, will bring you a copy of the seed Annual for 1890 by return mail.

Recent Publications.

We are in receipt of a magnificently illustrated book, which is given away to each subscriber to *Tick's Floral Magazine*, published by James Vick, Rochester, N. Y.

TILLINGHAST'S NEW FLORAL ALBUM is not a seed catalogue, but a magnificent volume containing 270 elegant colored plates, making the most beautiful and extensive collection of floral lithographs ever published. The first copy cost over \$2,000.00. I will mail one copy for introduction on receipt of 50 cents. Isaac F. Tillinghast, LaPlume, Pa.

CATALOGUES RECEIVED.

Catalogue of Janesville Hay Tool Co., Janesville, Wis.

Landreth's Garden and Flower Seeds. D. Landreth & Son, Philadelphia, Pa.

Catalogue of Livingston's tomatoes, Gragg watermelon and Gold Coin sweet corn. A. M. Livingston's Sons, Columbus, Ohio.

Illustrated Price List of The Nixson Nozzle and Machine Co., Dayton, Ohio, makers of spraying machinery, Climax force pumps, Climax spray nozzles, Climax insect poison, etc.

IMPORTED INDIAN GAMES! Circulars free. P. A. WEBSTER, Cazenovia, N. Y.

HEAVES positively cured with my remedy. If it fails, money refunded. It cured my horse and will cure yours sure. Receipt, \$1.50. No stamps. J. C. RENSSLER, Box 479, Cuyahoga Falls, Ohio.

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Any TWO of the following Books will be Sent to Any Person sending 50 cents for One Year's Subscription to this Paper, within 30 days.

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Any ONE of the Books will be Sent as a Premium to Any One sending Three 3-Months' Trial Subscribers at 10 cents each, or any TWO Books Given as a Premium to Any One sending One NEW Yearly Subscriber at 50 cents.

The Books and Papers all sent by mail, postage paid by us.

Remember, they are Large Books, most of them Containing from 200 to 350 Pages.

THE HOUSEKEEPER'S NEW COOK BOOK.

Premium No. 803. This popular cook book contains 256 pages and is not surpassed, and perhaps has no equal. Over 250,000 copies have been sold. The recipes were sent us by subscribers to our papers, which are so popular that they have over 300,000 subscribers. We asked the readers of our papers to contribute their best recipes, those which they had tried and knew to be good, for publication in a book. Many Thousand Recipes were received, and about 1,000 of the choicest selected. They came from nearly every State and Territory in



the Union and Canada, and the names and post-office addresses of the contributors are given in the book. It contains double as many recipes as Cook Books costing \$5.00 to \$10.00 each. It tells how to make all kinds of Bread, Biscuit, Rolls, Waffles, Fritters, Puddings, Pastry, Pies, Dumplings, Tart, Sauces, Salads, Soups, Preserves, Jellies, Desserts, Creams, Pickles, Beverages, Soda Water, Lemonade, Chocolate, Coffee, Tea, Candies, Butter, Soap, etc.; also how to cook all kinds of Meats, Fish, Oysters, Eggs, Grains and Vegetables. It also gives many Hints and Helps, besides much practical information on a great variety of subjects that every housekeeper ought to know. In short, it is just the complete and practical Cook Book that every housekeeper should have. Remember, it Contains Double the number of Recipes contained in many books costing \$3.00.

BUFFALO BILL. Premium No. 830. His Adventures in the Far West. One of the most popular stories ever published. Founded on facts and incidents in the life of William Cody, who is known the world over as Buffalo Bill. Written by that great story writer, Ned Buntline. 314 pages.

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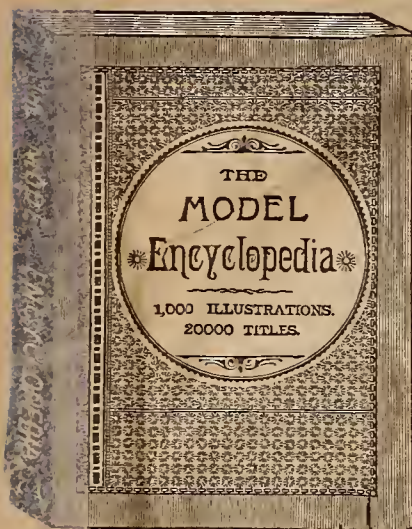
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I received your premium sewing machine one year ago, and am well pleased with it. Would not exchange it for machines sold here for Fifty Dollars. I thank you a thousand times for such a valuable premium.
W. A. BISHOP.

ALTUS, ARK., Dec. 7, 1889.
The Chicago Singer sewing machine received in good order. This machine is a splendid one; the agents here would ask about thirty-five dollars for such a machine. Many thanks.
JOSEPH BACHMAN.

SOMERSET, VA., Oct. 28, 1889.
The machine ordered of you arrived, and after a few days' trial I find it to be as represented, and doubtless will continue to give satisfaction.
MARY J. WALKER.

TRENTON, N.B., Nov. 26, 1889.
The premium sewing machine came to hand very promptly and in good order. It is nicely finished, works like a charm, and we are delighted with it.
E. F. YOUNG.

ST. MARGARET'S, MD., Dec. 14, 1889.
We received the machine two weeks since, in good order. We are pleased with the machine and glad to speak of you as an honest, honorable firm. A neighbor was here to look at the machine, and expects to order one next week.
E. H. RIDOUT.

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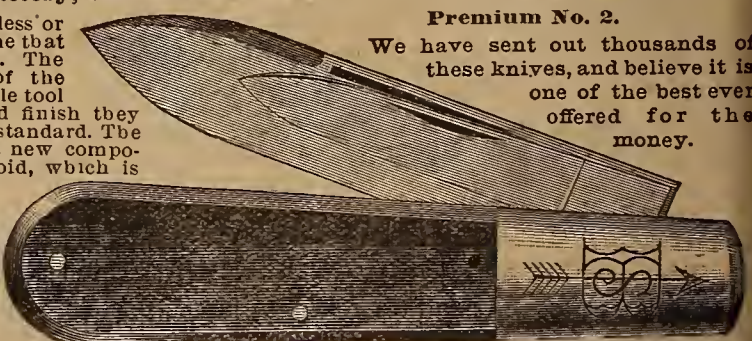
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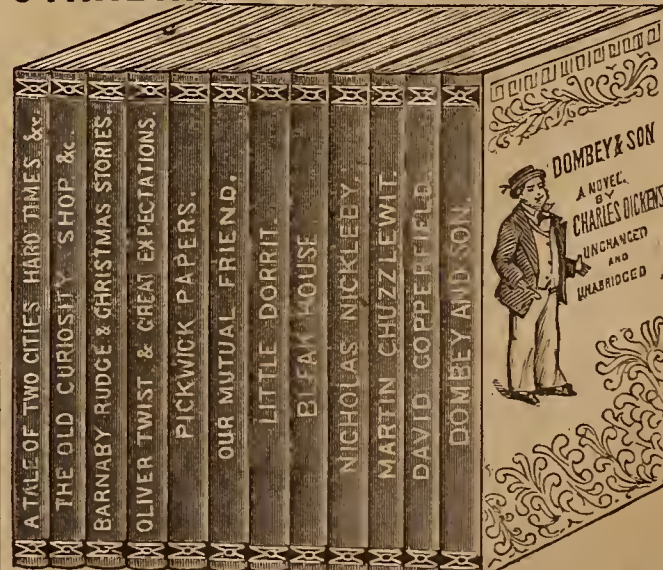
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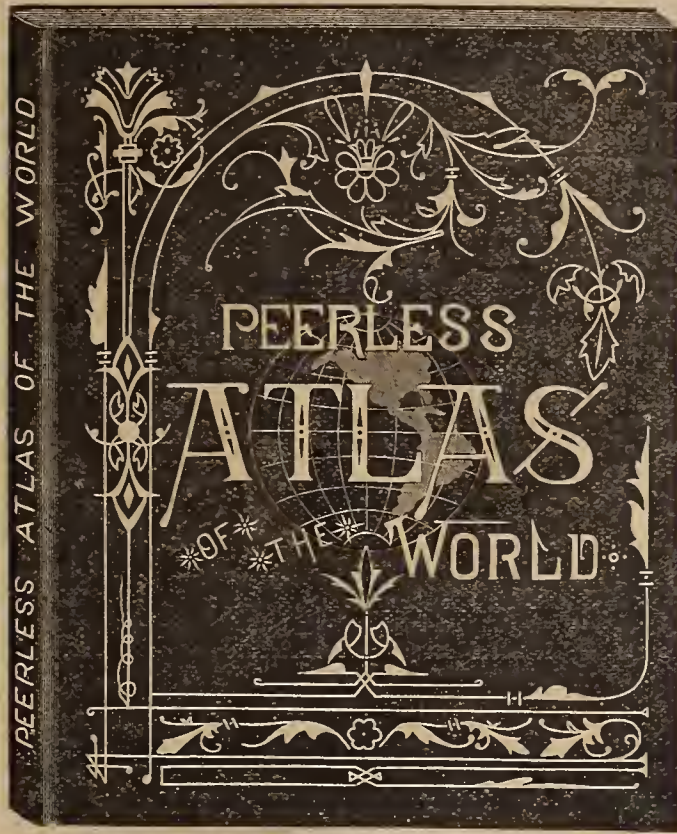
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A FEW OF THE MANY TESTIMONIALS RECEIVED.

St. MARY'S, Mo., Nov. 25, 1889.
I write you acknowledging the receipt of the Peerless Atlas of the World. I would not take \$5 for the Atlas if it was impossible for me to obtain another like it.
Yours sincerely, GEO. M. DILLARD.

DIAMOND, Mo., Dec. 18, 1889.
Peerless Atlas received. It is magnificent. I think I can sell lots of them. W. B. McBEE.

FOLSOM, CAL., Dec. 12, 1889.
I received the Peerless Atlas last week. It far exceeds my expectations. It is a beauty, full of interesting information. I think I can sell several in our town.
G. C. CUSTER.

CENTRALIA, KAN., Dec. 2, 1889.
Your Peerless Atlas of the World came to hand all right. I am much pleased with it. It is just what is wanted. I am a canvasser and would like to handle the Atlas. One gentle-

man called in to see it and gave me his order. People want an Atlas that gives the counties, and the Peerless is the one. JOHN PARKER.

JACKSON, MICH., Dec. 9, 1889.
I received the Peerless Atlas and am very much pleased with it. I think I can sell several of them in my neighborhood, as it seems to be very complete and the maps are so clear and plain.
JULIUS H. CHURCH.

MOUNTAIN DALE, N. Y. Dec. 9, 1889.
I received your Peerless Atlas of the World in good order, and I like it very much. It is just what I wanted. I would not take Ten Dollars for it.
EFFIE DAYTON.

CHAMBERSBURG, OHIO, Dec. 12, 1889.
I received the Peerless Atlas, and wish to say that it is far beyond my expectations. I think I can sell several in my neighborhood.
Yours respectfully, W. J. BOLL.

MOST COSTLY PAINTING IN THE WORLD.

The United States Postmaster-General paid over One Hundred Thousand Dollars for the Famous Painting entitled "CHRIST BEFORE PILATE."

The intense interest shown by all classes in this great painting induced the publishers of this journal to spend thousands of dollars to secure an accurate copy, in the Original Colors, of this Wonderful Work of Art. In order to do this, they engaged the best artists and engravers in this country to make an accurate, faithful copy of this magnificent painting. The artists successfully finished their work, and have produced a highly artistic and very beautiful Oleograph copy or reproduction of Munkacsy's great painting, "Christ Before Pilate." Therefore we are now prepared to give a copy of

THIS GRAND PICTURE FREE TO EVERY ONE

Who sends 50 cents for this paper one year, within 30 days from date of this paper.
A Copy of the Picture will also be Given Free to Any One who sends Five 3-Months' Trial Subscribers, at 10 Cents Each, or to Any One who secures a NEW subscriber to this paper at 50 cents a year.

In the latter case the subscriber is not entitled to a picture free, as only one picture can be given with each yearly subscription, at 50 cents, and that only for a limited time in order to introduce it.

Millions of people, in this country and Europe, have travelled many miles and paid an admission fee to get a view of the remarkable painting,

"CHRIST BEFORE PILATE,"

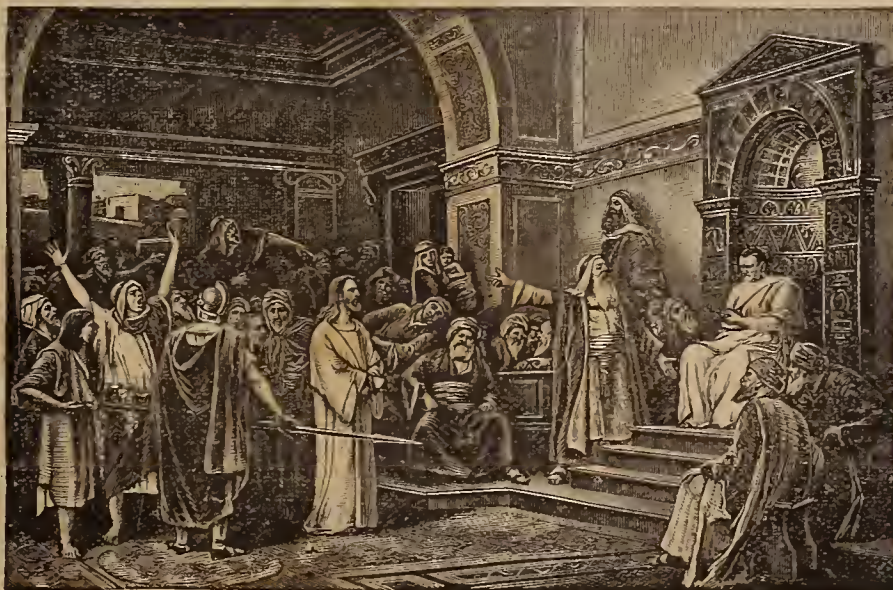
And it has been the topic of conversation in hundreds of thousands of homes for many months. It is pronounced by critics to be the most notable picture ever brought to America, a masterpiece, truly grand and wonderful as a work of art beyond the power of language to describe, and worth a thousand sermons as a moral lesson.

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SIZE, 21 by 28 INCHES.

DESCRIPTION OF THE PAINTING.

The scene chosen for the painting is the "Judgment Hall" in the palace of Pilate, and the hour "early in the morning." Around the Governor the priests are gathered, and the high-priest, Caiaphas, is accusing Christ and demanding his death. The proud and furious bigot is all alive with excitement. There is a majesty about his pose, the consciousness of power in his look and gesture, and something of dignity in the superb audacity with which he draws Pilate's attention to the execrations of the mob (who are crying out "Crucify him!"), as expressive of the national will which the Governor is bound to respect, at the same time insinuating that to let this man go will be treason to Caesar, as well as a violation of the Jewish law which demands the prisoner's death for "making himself the Son of God." Pilate is yielding to the clamor, while his conscience, aided by his wife's message, warning him not to condemn that righteous man, is protesting in tones which make him tremble.

THE CENTRAL FIGURE.

And the most impressive of all, is Christ himself, clad in white, with flowing hair and bound wrists. He stands alone in the simple majesty of his own personality, without sign or symbol, save his individual greatness. A heavenly submission is on his face.

OTHER LEADING FIGURES

Are represented by the proud and confident Pharisee, the haughty and contemptuous Scribe, the Roman soldier, of splendid physique; and the ruffian leaders of the mob, as they join in the cruel cry, "Crucify him!" To one side is one of the daughters of Jerusalem, holding up her child to see him whose blessing has forever consecrated childhood. In the outer court the multitude is waiting for Pilate's decision.

WE GUARANTEE SATISFACTION or will refund the money to any one who is in the least dissatisfied, if the picture is returned in good order.

Remember, this Grand Picture is given Free as a Premium to any one sending one NEW yearly subscriber, at 50 cents, or for five 3-Months' Trial Subscribers, at 10 cents each.

The Regular Price, including one year's subscription to this paper, is 75 cents, but any one sending 50 cents for one year's subscription to this paper, within the next 30 days, will receive the picture free if they ask for Premium No. 100.

No commission or premium allowed club raisers when subscribers take advantage of our special offer of the picture and one year's subscription for only 50 cents.

For any article on this page, address letters to

FARM AND FIRESIDE, Philadelphia, Pa., or Springfield, Ohio.

BROOKLYN, N. Y., Dec. 9, 1889.
The picture, "Christ Before Pilate," just received. Many thanks. It is simply grand. So life like. How can you give so much for so little? With best wishes for your good paper.
JULIA B. HALL.

JEFFERSON, TEX., Nov. 25, 1889.
The picture, "Christ Before Pilate," came to me safely some time ago, and you cannot think how delighted I was in receiving it. I

would not part with it for \$10.00, if I didn't know where to obtain another. I will have it suitably framed and will give it the best place in my parlor.
MRS. L. A. WILKINSON.

BENTONVILLE, IND., Dec. 15, 1889.
I received your picture, "Christ Before Pilate," in very good condition. I would not part with it for \$100.00. I think it is really a wonderful work of art. I thank you a hundred times for it.
ABRAHAM DASHLER.

Miscellany.

Age thou of death most meet
Or thy embrace I sigh!
Depart!—for 'tis most sweet,
To live, thus without death to die.

Living—oh, how sweet!
Of death he fears or knows
Not—in his bosom meet
And the grave's repose.

LS cure sick-headache.

Anonymous means without a
sentence showing you under-
the word."

writes) "Our new baby is anon-

"I HAVE always believed," says Marion Harland, "that every girl should be taught some definite, bread-winning occupation. My eldest daughter took a thorough course in English literature; my youngest has learned stenography and type-writing, and has the care of all my correspondence."

A STATISTICIAN says that sixty years ago the population of the United States was 12,000,000, and that the aggregate wealth of the people was \$1,000,000,000, which was \$84 for each individual, and that the present population is 60,000,000, and the aggregate wealth \$56,000,000,000, which is \$934 for each individual; but every individual does not get the \$934 cash in hand.

A SERIES OF EVENTS AT OPPENHEIMER'S.

Henry Oppenheimer, our genial blacksmith, was at work in the shop shoeing a horse, Wednesday, and his wife left the house to shoe the hens, leaving his little son Conrad alone with Nebuchadnezzar, the dog. Nebuchadnezzar got his head in the milk-pitcher and was unable to extricate it, Conrad was compelled to cut the head off to save the pitcher, and then he felt obliged to break the pitcher to get the head out. Henry Oppenheimer nearly lost his son Conrad. It was a close call for him when his ma came into the kitchen.—*Gladstone Delta*.

THE PYRAMIDS.

A personal inspection of the pyramids of Egypt, made by a quarry owner, who spent some time recently on the Nile, has led him to the conclusion that the old Egyptians were better builders than those of the present day. He states that there are blocks of stone in the pyramids which weigh three or four times as much as the obelisk on the embankment. There are stones in the pyramids 30 feet in length, which fit so closely together that a penknife may be run over the surface without discovering the break between them. They are not laid with mortar, either. There is no machinery so perfect that it will make two surfaces thirty feet in length which will meet together in unison as these stones in the pyramids meet.—*Chicago Journal of Commerce*.

SULPHUR FUMIGATION.

Sulphur fumigation as a preventive of infectious diseases has been of late urgently recommended by physicians and boards of health. Dr. Squibb, of Brooklyn, now calls attention to an important fact unknown to the laity, and which should be emphasized in any directions for sulphur fumigation. This is, that in the absence of moisture the penetrating power of sulphurous acid gas is only slight, and for this reason there should be an abundance of aqueous vapor in the apartment in which the sulphur is burned.

Medical News suggests that water be kept boiling in the room in which gas is generated. Dr. Squibb also affirms the relative uselessness of chlorine gas as a disinfectant in the absence of aqueous vapor.

BILL ARP AMONG THE FARMERS.

Bill Arp, the Georgia humorist, has been among the farmers. He says: By invitation, I made a speech not long ago at a farmers' barbecue in a neighboring county, and I spread myself in encouraging our people to keep up with the age, and I pictured the innocence and honesty and independence of a farmer's life in multitudinous language. I was cheered and congratulated, of course, and when I got through, an old, grizzly fellow, with brass-bound spectacles, came up and says he to me: "My friend, you talk mighty well; you talk like a lawyer; but I would like to know if you can tell me what kind of a calf makes the best milch cow?" "A helper calf," said I, and the crowd just yelled. I got the grin on the old man, and so says: "Let me ask you a question and you may ask me another, and the man who can't answer his own question must treat to cigars." "All right," says he, "now go ahead."

Said I: "How does a ground squirrel dig his hole without leaving any dirt around the top?"

He studied awhile and then gave up, and called on me to answer. "Why," said I, "he begins at the bottom."

"Well, but how does he get to the bottom?" said the old man, as though he had me.

"I don't know," said I: "I never did know, and as it is your question, you must answer or pay."

The crowd yelled again, and the old man surrendered and bought the cigars.

HOME LOVE.

Home love is the best love. The love that you are born to is the sweetest you will have on earth. You, who are so anxious to escape from the home nest, pause a moment and remember this is so. It is right that the hour should come when you in your turn should become a wife and mother and give the best love to others; but that will be just it. Nobody—not a lover—not a husband—will ever be so true as your mother or your father. Never again, after strangers have broken the beautiful bond, will there be anything so sweet as the little circle of mother, father and children, where you are cherished, protected, praised and kept from harm. You may not know it now, but you will know it some day. Whomsoever you may marry, true and good though he may be, will, after the love days are over and the honeymoon has waned, give you only what you deserve of love or sympathy, and usually much less, never more. You must watch and be wary lest you lose that love that came in through the eye, because the one who looked thought you beautiful. But those who bore you, who loved you when you were that dreadful little object—a baby—and thought you exquisitely beautiful and wonderfully brilliant—they do not care for faces that are fairer and forms that are more graceful than yours. You are their very own, and so better to them always than others.—*California Patron*.

A PICTURESQUE ROAD.

Although the road to Quito is over an almost untrodden wilderness, it presents the grandest scenic panorama in the world. Directly beneath the equator, surrounding the city whose origin is lost in the mist of centuries, rise twenty volcanoes, presided over by the princely Chimborazo, the lowest being 15,932 feet in height, and the highest reaching an altitude of 22,500 feet. Three of these volcanoes are active, five are dormant, and twelve are extinct. Nowhere else on the earth's surface is such a cluster of peaks, such a grand assemblage of giants. Eighteen of the twenty are covered with perpetual snow, and the summits of eleven have never been reached by a living creature except the condor, whose flight surpasses that of any other bird. At noon the vertical sun throws a profusion of light upon the snow-crowned summits, when they appear like a group of pyramids cut in spotless marble.—*The American Magazine*.

DOING GOOD.

"There," said a neighbor, pointing to a village carpenter, "there is a man who has done more good, I really believe, in this community than any other person who ever lived in it. He cannot talk very much in public, and he does not try. He is not worth two thousand dollars, and it is very little he can put down on subscription papers. But a new family never moves into the village that he does not find it out and give them a neighborly welcome and offer them some service."

"He is on the lookout to give strangers a seat in his pew at church. He is always ready to watch with a sick neighbor and look after his affairs for him. I believe he and his wife keep house plants in winter mainly that they may be able to send bouquets to friends and invalids. He finds time for a pleasant word to every child he meets, and you'll always see them climbing into his one-horse wagon when he has no other load. He has a genius for helping folks, and it does me good to meet him in the streets."—*St. Louis Globe-Democrat*.

POST AND RAIL PEOPLE.

A friend of mine says there are two sorts of people in the world—"posts" and "rails," and a good many more rails than posts. The meaning of this is that most people depend on somebody else—a father, a sister, a husband, wife, or perhaps on a neighbor.

Whether it is right to divide the whole population of the earth quite so strictly, it is true that we all know a good many rail-like people. Blanche Evans tells me one of the Rail-girls sits by her in school. Miss Rail never had a knife of her own, though she used a sort of a pencil that continually needs sharpening; so Blanche's pretty penknife was borrowed until one day the Rail-girl snapped the blade. Blanche was so tired of leading the knife that she was not very sorry.

Miss Rail's brother works beside Henry Brown in the office of the *Daily Hurricane*. They both set type, and Henry's patience is sorely tried by Master Rail. If Henry tells him to-day whether the *l* is doubled in model when *ed* is added, he will have forgotten tomorrow; and Henry has to tell him whether the semicolon comes before or after *viz.* every time he "sets it up." The truth is, the Rail-boy doesn't try to remember these things; he has taken Henry for a post and expects to be held up by him.

Being a post is often unpleasant, but how much worse it is to be a rail! The post can stand by itself—but take it away and where is the rail? Boys and girls have this advantage over a wooden fence—if they fear that they are rails, they can set about turning themselves into posts at once, and they will find the post business a far more delightful one.—*Annie M. Libby, in Wide Awake*.

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MAULE'S SEEDS.

There is no question but that Maule's Garden Seeds are unsurpassed. Their present popularity in every county in the United States proves it, for I now have customers at more than 32,500 post-offices. When once sown, others are not wanted at any price. My new Catalogue for 1890 is pronounced the most original, beautifully illustrated and readable Seed Catalogue ever published. You should not think of purchasing any SEEDS before sending for it. It is mailed free to customers and to all others enclosing 10 cents in stamps for it.

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Of all kinds at almost half price. Lovett's Guide gives descriptions and prices, tells how to purchase, plant, prune, etc. It is a book of over 60 pages, finely illustrated, free; with colored plates 10c.

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A copy of that practical, horticultural journal, ORCHARD & GARDEN, free to all who state where they saw this advt.

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LITTLE SILVER, N. J.

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Always mention this paper when answering advertisements, as advertisers often have different articles advertised in several papers.

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BEST SEEDS including RARE NOVELTIES of sterling merit, which cannot be obtained elsewhere. It is mailed FREE to all who want really first-class Warranted Seeds.
W. ATLEE BURPEE & CO., Philadelphia, Pa.

500 Crystal Glass Water Sets Free

Splendid Premium Offers—Look for Water.

We are the publishers of a very popular 20 page, 80 column illustrated home paper. In order to introduce it into new homes we make you this Grand Offer. The person telling us the place in the Bible where the word Water is first found (book, chapter and verse) before May 15th, will receive a handsome Parlor Organ, valued at \$25.00. Should there be more than one correct answer, each of the next five persons will receive a beautiful Parlor Organ, valued at \$100.00. The next fifty persons will each receive a beautiful 56-Piece Tea Set. The next ten persons will each receive a splendid Family Sewing Machine, valued at \$55.00 each. The next ten persons will each receive a handsome, 14 K. gold plated, hunting case Watch, stem wind and set, ladies' or gent's size. The next five hundred persons will each receive one of our beautiful Crystal Glass Water Sets. The next ten persons will each receive a handsome Dress Pattern of Silk, valued at \$25.00. With your answer enclose 25 cents (silver if you can, or stamps) for which we will send you our charming paper each month for five months. We make this Grand Offer simply to advertise our paper and secure new subscribers, that's the reason we give away these grand premiums, because we want new subscribers. Remember, you pay nothing for the premiums. The 25 cents is to pay for the paper five months. The premiums we give away to advertise our business. We guarantee satisfaction or money refunded. The list of persons receiving the beautiful premiums will be published in the June Number of our paper. When you write say you saw our advertisement in this paper, and don't fail to enclose 25 cents for our paper five months. Address



FREE.

Kirtland Bros. & Co., P. O. Box 3340, N. Y.

Allegany, N. Y., November 30, 1889.
The Peerless Atlas is received and we are more than pleased with it. It more than meets our expectations. The paper and Atlas comes within the reach of every family, to teach children geography at home and as a book of reference for grown persons. Accept our thanks.
MRS. H. H. JONES.

Chicago, Ill., Nov. 25, 1889.
The Peerless Atlas received all right. It is just the thing for daily use.
L. R. PITNEY.

Mapleton, Ohio, Nov. 30, 1889.
I received your new Peerless Atlas of the World and I would not take five times what I paid for it if I could not get another.
MRS. D. H. LOWERY.
See Our Liberal Offer of the Peerless Atlas, on page 133.

Selections.

SUNSET.

The golden gates of day in quiet close
After the king has passed, and fold on fold
His crimson banners are together rolled,
And laid away. The valley of repose
Is hid to which the stately monarch goes;
He spreads his couch beyond the mountains
old,
Wrapped in the drapery of living gold,
And leaves the night to us, which darker grows.
At such a time, how beauty as a queen
Lingers among the arches of the west,
And nations look enchanted on the scene
And praise the vesper star upon her breast;
Age seeks its pillow, childhood falls asleep—
Hush, hush, O world! a night-long silence keep.

ADVICE TO MEN IN TRADE.

Trouble is tolerably certain to follow verbal contracts. The wise merchant, taught by experience, will endeavor to have a writing executed by the person to be charged, in every case of importance arising in his business. This especially is necessary of guarantees. A man enters your office whom you know to be perfectly responsible. He tells you to sell Brown a thousand dollars' worth of goods, etc.; make him sign a memorandum. A customer gives you a large order for future installment deliveries. Make him sign it in writing. You engage a salesman for a year, or for a month, or for a trial trip. Have it all put down in writing and signed. You save your chances before a jury, who, nine times out of ten, prove uncertain and too sympathetic with that party whom they consider is the "under dog." It is only a little trouble at the time, but it usually saves a heap of trouble in the future.

ALMOST THROUGH.

A country editor, who was not supposed to be rich, built himself a modest cottage. The neighbors were all interested, and naturally made frequent inquiries as to how the building was progressing. The editor finally tired of being asked whether the plastering was dry yet, whether he expected to move in this week, etc. As he expressed it, he could not appear in the street without somebody's asking:

"How's the house getting along?"

One day he was quite out of patience, and just then a subscriber asked:

"Well, Mr. Barnes, have you moved into your new house yet?"

"We began this morning," answered the editor; "I carried over a chair, and a salt-cellar, and left the dog in the yard."

"Well, well," said the subscriber, "moving is bad business; I'm glad you've got so near through with it."

TRAIN THE GIRLS.

When a girl is ten years old, she should be given household duties to perform according to her size and strength, for which a sum of money should be paid her weekly. She needs a little pocket money, and the knowledge how to spend it judiciously, which can so well be given by a mother to her little girl. She should be required to furnish a part of her wardrobe with this money. For instance, if she gets ten cents a week, she should purchase all her stockings, or all her gloves, as her mother may decide; and doing this under the mother's supervision, she will soon learn to trade with judgment and economy. Of course the mother will see that the sum is sufficient to do this and yet leave a trifle for the child to spend as she pleases. This will supply a healthy stimulus; it will give her a proper ambition and pride in her labor, and the ability to use money properly. As she grows older these household duties should be increased, with the proportionate increase of money paid for the performance of them. We know a lady who divides the wages of a servant among her three daughters. There is a systematic arrangement of their labor, which is done with a thoroughness and alacrity rarely found, either with a hired girl or daughter who feels that she has to do it with nothing to encourage or stimulate her in the work.—*Woman's Journal.*

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Do you suffer from Dyspepsia, Indigestion, Sour Stomach, Liver Complaint, Nervousness, Lost Appetite, Biliousness, Exhaustion or Tired Feeling, Pains in Chest or Lungs, Dry Cough, Night sweats or any form of Consumption? If so, send to Prof. Hart, 88 Warren St., New York, who will send you free, by mail, a bottle of *Floralax*, which is a sure cure. Send to-day.

SEEDS 6 pkts of my choicest Flower Seeds 10c. Beautiful catalog free. F. B. Mills, Thorn Hill, N. Y.

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GRAIN.—			
Wheat No. 2 spr'g	79 @ 79½	85	
" No. 2w'nt'r	78½	85½	
Corn.....	26 @ 27½	35½ @ 41	41 @ 42
Oats.....	20 @ 23	28 @ 31½	29 @ 30
LIVE STOCK.—			
Cattle, Extra.....	4 85 @ 5 20	4 85 @ 5 25	
" Shippers.....	2 60 @ 4 75	3 55 @ 4 80	2 50 @ 3 25
" Stockers.....	1 75 @ 2 90		
Hogs, Heavy.....	3 55 @ 3 80	3 85 @ 4 15	2 50 @ 4 00
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Sheep, com. to good	3 50 @ 4 75	3 50 @ 5 50	2 00 @ 3 00
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Lard.....	5 80 @ 5 82	6 20	5 50 @ 5 62
Mess Pork.....	8 25 @ 9 00	10 25 @ 10 40	10 37½
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" Western.....		30 @ 31	
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20 PAGES.

EASTERN EDITION.

VOL. XIII. NO. 10.

PHILADELPHIA, PA., and SPRINGFIELD, OHIO, FEBRUARY 15, 1890.

TERMS {50 CENTS A YEAR.
24 NUMBERS.

The Circulation of FARM AND FIRESIDE
this issue is

250,900 COPIES.

The Average Circulation for the 24 issues of
the year 1889, was

240,650 COPIES EACH ISSUE.

To accommodate advertisers, two editions
are printed. The Eastern edition being
100,300 copies, the Western edition
being 150,600 copies this issue.

Current Comment.

WE wish to call the special attention of our readers to the extraordinary bargain FARM AND FIRESIDE is now offering to its patrons. We refer to the Peerless Atlas of the World, a full description of which appears in our advertising columns. This new and complete atlas of the world is our latest and greatest premium, and the price, including one year's subscription to this paper, is only one dollar. Never before in the history of map publishing has such a valuable work been offered to the public at such a low price. This is the day of cheap books, but FARM AND FIRESIDE is the pioneer in the line of getting out and publishing a cheap, good and complete atlas of the world. Heretofore the price at which good atlases have been sold restricted their sale to the few. The Peerless is a work for the million. As anticipated by the publishers, the Peerless is winning popular favor, and our first edition of fifty thousand is going rapidly. The testimonials received show that the purchasers are more than delighted with this premium. This is what the publishers wished and expected.

Owing to the rapid settlement and development of new countries, and the building of railways and new towns, an atlas gets out of date in a few years. This has limited the sale of the high-priced ones. But the Peerless is so low-priced that it can easily be replaced from time to time by a copy from a later edition.

THERE is a class of agitators who believe that poverty can be abolished by the abolishment of private ownership in land. At the present time they are very earnestly advocating single tax. Single tax, or the raising of all funds necessary to defray the expenses of the government by tax on land alone, is a means to an end. That end is, briefly, the confiscation of land by the government without compensation to the present proprietors. Under our present laws, land can be taken for the use of the public, but not without just compensation. Single tax advocates go much further than this. They want the government to take the land without any compensation to the land owners. They propose to accomplish this by making the tax on land so high that no one can afford to own it. It is an indirect way of confiscation without compensation. When the land owners understand that, single tax cannot be established in this country without a revolution.

Any person accepting any of our liberal offers in this issue will receive a copy of that valuable picture, "Christ Before Pilate," free of cost. See page 167.

It is a matter of serious importance for a man to sell his home, take his family, leave his old friends and neighbors, and move away to a different and perhaps distant part of the country. He does so with the earnest desire and hope of bettering the condition of his family. He expects to make his new home better and happier than the old one. If he makes a mistake in selecting a new home, he cannot take the consequences alone; they fall on every member of his family. A serious mistake may result in great suffering. Bearing this in mind, our correspondents, in the descriptive letters of their localities, will not paint the landscape in colors too bright. Some home seeker may be unintentionally misled into taking a step that will cause disappointment and suffering to himself and family.

"Extracts from Correspondence," we are assured, are read with much interest. Some of our readers have moved to new places and made new homes on the strength of these letters, and have been the gainers. Others may do so and be the losers; therefore, this word of caution to our correspondents. Give us the drawbacks as well as the advantages of your part of the country; they are of greater importance. The settler who goes to a new country with a full knowledge of its drawbacks, goes prepared to overcome them, and succeeds when he would otherwise fail. Let us have an accurate description, disadvantages and all, so that no one will get a false impression and go to a new location with too great expectations, and at the risk of serious loss and suffering.

FOR many months past, so much has been said about the decline in agriculture, the low prices of farm products, the abandoned farms in New England, the mortgaged farms of the West, etc., that the subject has become wearisome. The depression in agriculture is a serious fact, and it demands and deserves the most careful consideration of economists. The causes should be determined and removed, if possible. All the study and discussion we can have in this line is profitable. But when agitators and demagogues are "working" the subject for all it is worth, to help foist their financial schemes and political theories on the people, it is time to call a halt and point out the false assumption on which their theories are mainly based. They assume that the depression in agriculture exists in this country only. This is not true. It is not confined to this country; it is general. It affects the countries of Europe as badly as our own. The agricultural depression is even greater in the United Kingdom than in the United States. The demagogues have much to say about the condition of farm laborers and the depreciation of farm values in New England, but not a word about that of old England. If they did, the weakness of their arguments and the worthlessness of the remedies they offer would appear at once. They hide and may even deny the facts.

Mr. Robert Giffen, the eminent authority on British statistics, states that from 1875 to 1885, a period when there was a very large increase in the aggregate wealth of

the nation, the value of farm lands in the United Kingdom decreased nearly sixteen per cent. The condition of agriculture in England to-day is far from being a high one. Excepting in a very few special lines, farming is unprofitable. The farmers there are not land owners, but renters, and they are having a hard time of it paying their rent and taxes.

Attention is directed to this simply to show that all theories for the relief of agriculture based on the assumption that the condition of agriculture is all wrong in this country and all right in Europe are practically worthless.

THE farmers of Ohio have reason to feel encouraged in the hope that hereafter their interests will receive due consideration in the state legislature. Thirty-five members of the present legislature who are interested in agriculture have formed an organization, irrespective of party lines, for the special purpose of taking united action on all bills presented relating to agriculture. This looks like business. It is an important step, taken in answer to the reasonable and repeated demands of the farmers of the state, who have spoken in no uncertain sounds. This organization is strong enough to secure a hearing from the legislature on any proper subject, and, we hope, strong enough to secure the enactment of any fair and just law demanded by the farmers. Keep right ahead. This is the line on which to fight it out.

One of the main reasons why farmers' interests are so often ignored in the legislature is that party questions are allowed to overshadow all others. The legislation farmers ask for is non-partisan. Now, it is a sensible and commendable move on the part of the farmer members of the legislature to ignore party lines, unite, and push business questions instead of party questions to the front. If they succeed in this they will be public benefactors.

THERE is more interest manifested among farmers in the work of organization at the present time than ever before in the history of the country. The older organizations, such as the Grange, are experiencing a great revival, and new ones are growing very rapidly. In matters of organization, as in religion, human nature seems to be decidedly denominational. Just as people cannot all be induced to unite with some one church, or with any, for that matter, so farmers will not all join one organization, and some will not join any. But of all bodies of men they are certainly the most backward in "getting a move on themselves." But once well organized and started in forward motion, they will form an irresistible army. There is danger that the force of the farmers' defensive movement may be lost by having too many different organizations, but, after all, there is not much to prevent them from becoming regiments or divisions of one great army.

The organization that has grown most rapidly in numbers in recent years is the Farmers' Alliance.

In answer to inquiries, we give the declaration of purposes of the Ohio Farmers' Alliance:

Profoundly impressed that we, the Farmers' Alliance, united by the strong and faithful ties of financial and home interests, should set forth our declarations of intentions, we therefore resolve:

To strive to secure the establishment of right and justice to ourselves and our posterity.

To labor for the education of the agricultural classes in the science of economical government in a strictly non-partisan spirit.

To endorse the motto, "In things essential, unity, in all things, charity."

To secure purity of the elective franchise, and to induce all voters to intelligently exercise it for the enactment and execution of laws which will express the most advanced public sentiment upon all questions involving the interests of laborers and farmers.

To develop a better state, mentally, morally, socially and financially. To constantly strive to secure entire harmony and good-will among all mankind, and brotherly love among ourselves.

To suppress personal, local, sectional and national prejudices, all unhealthy rivalry, and all selfish ambition.

To assuage the sufferings of a brother and sister, bury the dead, care for the widows and educate the orphans; to exercise charity toward offenders; to construe words and purposes in their most favorable light, granting honesty of purpose and good intentions to others, and to protect the principles of the Alliance unto death.

Copies of the constitution of the Ohio Farmers' Alliance can be obtained of the state secretary, Dan Kreis, Cardington, Ohio. The secretary writes us as follows:

EDITOR FARM AND FIRESIDE:—The meeting of the Ohio Farmers' Alliance at Iberia, January, proved that this organization has passed the experimental stage and is here to stay. If the farmers of Ohio will now join hands in the work, the day of our deliverance is at hand holding back may delay but cannot stop the wheels of progress. Ohio is bound to take a front position in the organization, and farmers should join hands at once and give it that place immediately. Farmers, send at once for a copy of the constitution of the Ohio Farmers' Alliance.

THERE is a growing demand that the members of the United States Senate be elected by the direct vote of the people. It is not an easy matter to change the constitution, however desirable that change may be. The best of reasons must be given, and the subject agitated until popular sentiment is overwhelmingly in favor of the change. There may be many good reasons for amending the constitution so that the senators shall be elected by the direct vote of the people, but the reason most frequently urged is hardly sufficient. It is not sufficient, because the object aimed at would not be reached. The election of senators by direct vote would not, as argued, prevent a millionaire politician from buying a seat in the Senate. He would find it just about as easy to buy the nomination from the delegates to the convention of his party, and the necessary votes afterwards at the general election, as to buy his election from the members of the state legislature. They are fewer of the latter, but they "come" higher. They run a much greater risk than mere delegates to a party convention. They are in a position to be called to account. Detection is political suicide for them. Boodlers in politics will not necessarily be downed by the change demanded.

FARM AND FIRESIDE.

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When renewing your subscription, do not fail to say it is a renewal. If all of our subscribers will do this, a great deal of trouble will be avoided.

Also, give your name and initials just as now on the yellow address label; don't change it to some other member of the family; if the paper is now coming in your wife's name, sign her name, just as it is on label, to your letter of renewal. Always give your post-office address.

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The Advertisers in this Paper.

We believe that all the advertisements in this paper are from reliable firms or business men, and do not intentionally or knowingly insert advertisements from any but reliable parties; if subscribers find any of them to be otherwise we should be glad to know it. Always mention this paper when answering advertisements, as advertisers often have different things advertised in several papers.

Our Farm.

AGRICULTURAL CHEMISTRY

From the Standpoint of the Practical Farmer.

BY JOSEPH (TUSCO GREINER).

No. 27.

OTHER SOURCES OF PHOSPHORIC ACID.—

If we were compelled to depend for our supply of phosphoric acid on the bones of animals of our own period, we would be in a bad fix indeed. But it so happens that vast quantities of fossil bones—the bones of all sorts of animals that inhabited the sea, and swamps, and ponds, etc., probably long before the era of man—are stored up in various parts of the world, especially in North and South Carolina, in Florida and elsewhere. An immense accumulation of the best article of this kind is found in South Carolina, and this contains from forty to sixty per cent of phosphate of lime. It is known under the name "phosphate rock, or South Carolina rock." In this material we undoubtedly have our most abundant and cheapest source of phosphoric acid. To give to the reader an idea of the quantities at our disposal in South Carolina alone, let me state that the amount taken out of the mines there since they were discovered—less than twenty-five years ago—is estimated to be near 4,000,000 tons; yet the available supply is not visibly lowered.

In order to fit it for use, this rock is ground to a fine powder, and is then called ground South Carolina rock or floats. In this we have about twenty-seven or twenty-eight, sometimes even more, per cent of phosphoric acid, which, of course, is wholly insoluble, or very nearly so. The stations rate this form of phosphoric acid at two cents per pound, making the ton worth nominally \$11 or \$12. Floats can be bought at \$13 the ton.

If applied in this form to some soils, especially to those destitute of carbonaceous matter (humus), and insufficiently supplied with potash, such as thin, sandy soils, this plain phosphate has usually little or no immediate effect. In soils having potash and carbonaceous matter in sufficient quantity, however, the phosphatic flour is very slowly dissolved, and thus made available for plant nutrition. Whether this is done by the help of carbonic acid, or otherwise, I do not know, nor do I care so long as it is a fact that crops which have a long period of development—grains, grasses, cotton, fruits, etc.—often are thus fed with very excellent results and great saving in expense. I have seen as good effects from the application of phosphoric acid in this form, costing two cents a pound, on Virginia wheat farms, as from that of a \$30 fertilizer with its soluble phosphoric acid costing eight cents a pound. Where the two-cent

goods will answer every purpose, it would be folly to apply the dissolved article costing from five and one half to eight and one half cents.

On the other hand, there are instances where the cheap, ground phosphate rock or floats will do no perceptible good. This is especially in all cases where we desire immediate action of the phosphoric acid in quick-maturing crops, etc. Here a different course must be adopted; and instead of using plain, ground rock, we must apply phosphoric acid in the soluble state; and thus we have it in what is known as "acid phosphate," or "dissolved South Carolina rock." This is raw, ground rock or floats, treated with sulphuric acid in same manner as fresh bone is treated, as described in preceding article.

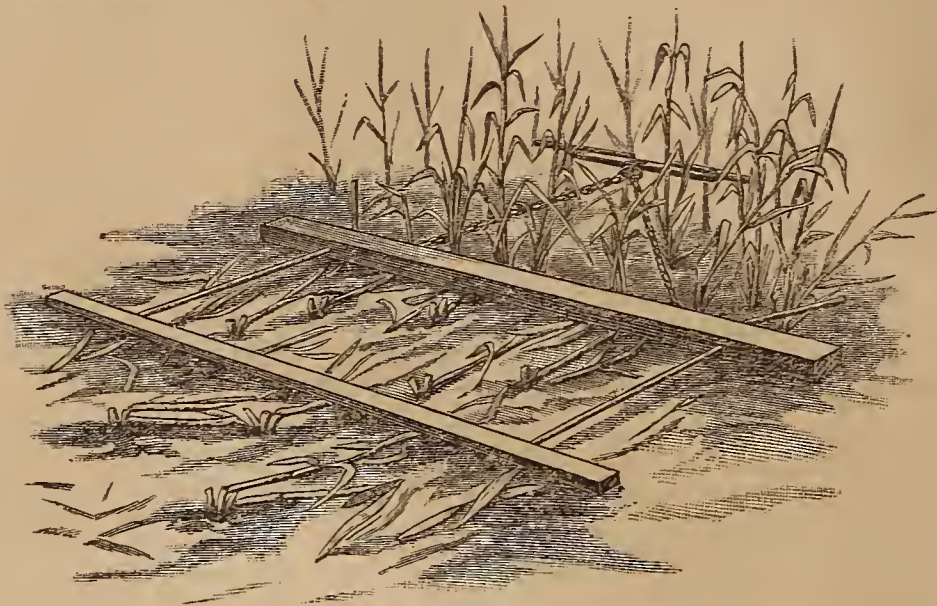
Acid phosphate contains about fifteen per cent of phosphoric acid, twelve of this soluble and three insoluble. A ton of the plain, ground rock has about 540 pounds of phosphoric acid (nearly all insoluble); the acid phosphate has only about 300 pounds, of which 240 pounds is soluble; but since we pay from \$15 to \$20 a ton for the acid phosphate, the pound of soluble phosphoric acid, containing the insoluble at two cents a pound, will cost us from five and three fourths to seven and one half cents, which is yet considerably cheaper than in bone phosphate, while the soluble acid will give us the same result in the field whether derived from rock or from fresh bone.

We might also buy the raw, ground rock,

have some effect. Probably phosphoric acid and nitrogen are in scant supply, while potash is abundant. Dissolved rock would furnish the phosphoric acid, and perhaps aid in making nitrogen available. This latter would also be the result of applications of lime and manure, which substances furnish a fine basis for the natural process of nitrification. There may be still another cause or causes. The moving spirit in this matter may simply be the sulphuric acid in the dissolved rock, and its action upon the needed plant foods. This may be determined by a few experiments. Apply land plaster, which is simply sulphate of lime, and note its effects. If it gives the same results as the rock, we may be sure that it is the sulphuric acid which does the work. If so, it can be bought cheaper in the form of land plaster than in phosphates. At the same time, experimentally, nitrate of soda might be applied on another plot, which will show, in its results, whether it is simply the nitrogen that is lacking.

CORN-STALK BREAKER.

Take a pole large enough to be hewn down to four by six inches, and long enough to take three rows of stalks at a swath. Bore a hole two and a half feet from each end. Take another pole, same length as first, and much lighter; bore holes in it to correspond with those in the front piece, and pin the two together by stakes three feet long. The main object is to keep the weight in the front pole, as



CORN-STALK BREAKER.

dissolve it by treatment with sulphuric acid in the way mentioned for bones. To do this we moisten 265 pounds of the ground rock with about 80 pounds of water in a tank or vat, then slowly and carefully add the contents of a carboy (100 pounds) of sulphuric acid (oil of vitriol), sixty-six degrees in strength, and stir thoroughly. The result will be about 450 pounds of dissolved rock or acid phosphate, containing about 70 pounds phosphoric acid, four fifths of it soluble, at a cost as follows:

265 pounds ground phosphate rock.....	\$1 72
100 pounds oil of vitriol.....	2 24
Total.....	\$3 96

Allowing two cents per pound for the insoluble part of the phosphoric acid, the soluble part will thus cost us about six and one half cents per pound. I do not see any great saving in this as compared with buying the dissolved rock out and out, and do not think I would be justified in advising my friends to assume the role of fertilizer manufacturers.

In the application and effect of phosphates we sometimes meet with questions of a rather complicated nature. To give an instance, I will cite what one of our readers, T. H. S., has recently written to us. He says: "What effect will dissolved South Carolina rock have on land if continuously used? It has now as good effect as high-priced fertilizer. Wood ashes, lime, manure, when applied singly, have no effect; but manure in combination with fresh quicklime shows about the same good results as the dissolved rock. Perhaps the soil contains some insoluble plant food which the caustic lime or the acid phosphate makes available."

There may be a peculiarity about this soil which I do not fully understand. If phosphoric acid alone were the missing element of plant food, wood ashes should

it does the breaking; the hind pole being used merely to steady the front one. The great fault with breakers is the sliding; to prevent this, bore two more holes in the front pole, nine and one half feet apart and equal distance from the ends, extending outward. Insert pins from the front, two and one half feet long, and you have a splendid corn-stalk breaker.

Cuba City, Wis.

ORVILLE.

SALICYLIC ACID IN FOOD.

(Continued from last issue.)

Salicylic acid was one of the food preservatives with which experiments were made. The difficulties with which experimenters encounter in work of this kind can only be appreciated by those who have attempted similar investigations. Circumstances apparently most trivial, as the shaking of the mixture after the addition of the saliva, the temperature of the added saliva, the time intervening between two sugar determinations after the solutions were made up, etc., were found to affect the results in a serious manner. Hence, a great deal of preliminary work is lost in working out a method which will give results satisfactory to the experimenter himself, and capable of bearing scientific criticism. The method finally adopted is as follows:

One gram of starch, if mixed with ten cubic centimeters of water, boiled for five minutes; five cubic centimeters more of water, added, cooled to forty degrees C.; five cubic centimeters of saliva, of the same temperature, added, vigorously shaken, kept at the temperature of forty degrees C. for the required time—the action of the saliva stopped by heating the mixture to the boiling point, rendered alkaline, diluted to one hundred cubic centimeters and the grape sugar determined with Fehling's solution. In the

first series of experiments, parallel tests were made with one gram of pure starch and one gram of starch containing ten milli-grams, or .01 grams of salicylic acid. The production of sugar was as follows, (a) representing the amount obtained from the pure starch, and (b) that obtained from starch and salicylic acid in the time given:

Time, one minute, grape sugar, (a) 7.57 per cent; (b) 9.61 per cent.

Time, five minutes, grape sugar, (a) 9.61 per cent; (b) 10.80 per cent.

Time, fifteen minutes, grape sugar, (a) 22.77 per cent; (b) 20.83 per cent.

Time, thirty minutes, grape sugar, (a) 26.31 per cent; (b) 27.77 per cent.

Time, one hour, grape sugar, (a) 27.67 per cent; (b) 33.33 per cent.

From these results it will be seen that the salicylic acid present had no effect on the formation of grape sugar. In fact, in some of the tests the production of sugar seemed to be slightly in favor of the salicylic acid, although in no case was the difference a marked one. After the addition of fifteen cubic centimeters of water and five cubic centimeters of saliva, it will be seen there was one gram of salicylic acid in twenty-one grams of the mixture, or one part of salicylic acid to twenty-one hundred parts of the mixture, and this proportion of salicylic acid, we must conclude, did not retard the formation of grape sugar by the action of saliva.

In the second series of experiments, ten times as much salicylic acid as in the first case was used; that is, one gram to one gram of starch. This would make one part of salicylic acid to two hundred and ten parts of the mixture. The results obtained are as follows:

Time, one minute, grape sugar, (a) 13.88 per cent; (b) none.

Time, five minutes, grape sugar, (a) 14.23 per cent; (b) none.

Time, fifteen minutes, grape sugar, (a) 22.77 per cent; (b) none.

Time, thirty minutes, grape sugar, (a) 25.00 per cent; (b) none.

Time, one hour, grape sugar, (a) 27.66 per cent; (b) slight trace.

From these experiments it will be seen that salicylic acid, in the proportion of one part to two hundred and ten parts of the mixture, completely stops the action of saliva upon starch, and thus blocks the first step in the digestion of starchy food. One part of the acid to twenty-one hundred parts of the mixture does not, as we have already shown, seem to have the same effect. Hence, the limits at which salicylic acid stops the production of grape sugar, or seriously interferes with its production, must lie between these two extremes. These points must yet be determined. In the meantime, the public, as well as science, owe a debt of gratitude to Mr. Fox for the industrious and painstaking manner in which he is pursuing this investigation.

As the action of salicylic acid is thus directly opposed to the process of digestion, its use in daily articles of food should be condemned for this reason alone.

Physiological effects.—The dose of salicylic acid, as a medicine, is from ten to forty grains. For children, the dose is much smaller. Although the maximum dose would rarely, if ever, be reached in the consumption of food preserved with the drug, yet the minimum dose, if continued for a long time, might produce equal disorders, and this dose can readily be exceeded, especially if a variety of foods and drinks thus preserved are consumed at the same meal. This danger is increased by the fact that several days may intervene before the drug is completely eliminated from the system after it is taken, although it speedily enters into the circulation.

From the physiological action of the drug, as reported in the National Dispensary, the following may be cited:

"Plants watered with a solution of salicylic acid speedily die. One grain of sodium salicylate introduced under the skin of a frog renders the animal languid, and then occasions complete motor paralysis and arrest of the heart. Guinea pigs, after a dose of sixty or seventy grains, grow rapidly weak, lie down and drag their limbs, which move spasmodically; then respiration grows shallower, until it ceases.

"Experiments on dogs: 1. Moderate doses occasion nausea, salivation, vomiting and diarrhoea. 2. The senses of sight and hearing appear somewhat dull. 3. The respiration is quickened, the temperature increased, except in fever, when it is reduced. 4. The central nervous system is affected only by large doses, which abolish sensibility and vitality, and spasms precede death. 5. After death, the stomach, intestines, liver and kidneys are congested; the brain and spinal cord, also, appear congested.

"Effects on man: In full medicinal doses salicylic acid usually causes buzzing, humming and rushing sounds in the ears, with more or less deafness. Headache is not unusual, and may be attended with dullness and an uncertain gait. Blindness for ten hours is reported. When fever exists, delirium is readily induced by the medicine, especially in nervous patients, and it is as apt to be, as in delirium tremens. Difficulty of breathing and palpitation of the heart are ordinary effects of the medicine. Hence, it should be a rule never to prescribe the medicine in case of heart or lung troubles. In cases of disease, enormous doses have been given without any apparent serious effects. On the other hand, cases of death are reported by doses not exceeding one hundred and fifty grains per day, and one case after four doses of only fifteen grains had been taken."

Fortunately, the toxic effects of the drug are counteracted by the nutrients of the food taken. Otherwise, the results of its general and indiscriminate use would be baneful indeed. But this statement does not justify its employment as a food preservative. The property of the drug pointed out above is not changed by the presence of nutrients, and its physiological actions are of such a nature that it should be administered only under the direction and care of a competent physician, and not be taken indiscriminately by every one in all conditions of health and disease.

In some countries steps have now been taken against this use of the drug. The boards of health of France and Austria have absolutely prohibited its use, even in the smallest amounts, in all articles of food and drink. Other countries may have done the same, but I have no information to this effect. From these considerations, we hold that salicylic acid can find no legitimate place in our daily food. Its use in private families should be discontinued, and its occurrence in commercial food products should be condemned by all.

H. A. WEBER.

Ohio State University.

GOOD REGION FOR SHEEP.

"Prof. Randall on Sheep Husbandry for the South," written forty years ago, shows how peculiarly well adapted this industry is to the climate and soil of the southern states, and though the war and the uprooting of old conditions of labor and land have prevented his suggestions from being generally adopted, the lapse of time only makes their soundness more forcible, and their study even more profitable and interesting than when written. The superiority of sheep for supporting the fertility of tillage lands, and the advantages of the short, mild winters and cheap lands, are well proven. It also shows that clover is not indispensable, though it grows freely, for the reason that the pea is to the South what clover is to the North; and also, that the South has all that is necessary to feed stock and fertilize the fields, for though ordinary animal manure is not attainable in sufficient quantities and is too expensive when transported, the remedy is found in a mixed system of green and animal manuring, the latter made attainable by sheep, and that the South possesses the same great advantage with the North-west—cheap lands—and the decided advantage over the North and North-west of short, mild winters.

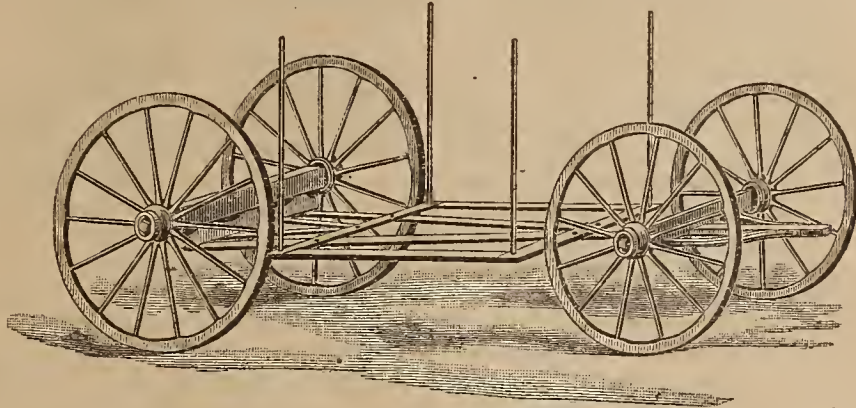
The discussion going on about the profit of sheep raising will doubtless throw light to guide in selecting advantageous locations, and the following figures are given to show that more than ordinary profit is assured to those who may settle on the cheap lands in Prince George's county, Maryland—the farthest not over twenty-

five miles from the national capital, and all convenient to the highest markets. These lands are forced to sale out of proportion to the number of buyers, and very few attract attention at any price, but once proved that they can be made to pay a good income by sheep husbandry, it may not be long before they will command attention of individuals and syndicates seeking remunerative investments for capital, in these days of low interests in this country and England, and be absorbed at prices bearing some equivalent relation to the income that they can be made to yield.

GEO. I. JONES.

FODDER WAGON.

Invert the hind carriage of a wagon, take out the standards and in their places fasten with small chains two pieces of timber sixteen feet long, and as large as is required for the weight you wish to haul. Bolt these pieces together at the forward end. Bore an inch hole through these pieces where they are bolted together,

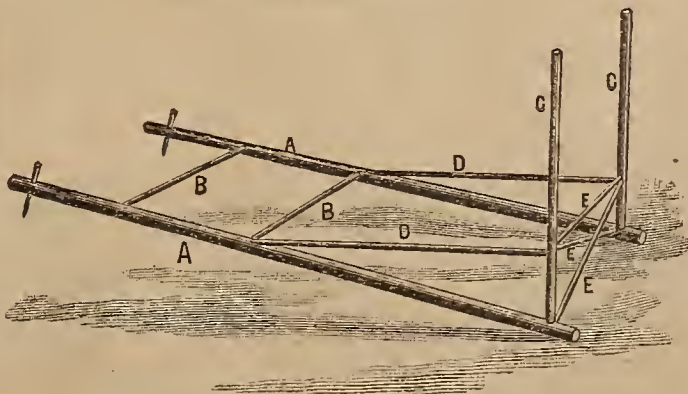


FODDER WAGON.

connect these pieces to the front carriage by bolting it with king-bolt on the under side of the axle. Have a nut put on the king-bolt, to fasten on top after removing the bolster. Bolt a two by six piece on in front of hind wheels. Bolt the hounds to this. Prepare an iron rod with hole in one end large enough for king-bolt, put this in place of the coupling-pole, and bolt this on to the long piece about three feet from the king-bolt. Put standards in the long pieces in front of hind axle. This wagon is convenient for all kinds of feeding, if properly made. In loading it with fodder, first load it full between the hind wheels. WM. FISHER.

FODDER DRAG.

Take two poles, A A, 14 feet long, connect them with two cross-sticks, B B, to the width of wagon-bed in front and 6 inches wider on the lower end. Next make two standards, C C, 6 feet high, stationed with two bearers, D D, also with three braces, E E E. I fasten them, and the cross-sticks also, with quarter-inch bolts. F F are pins through the ends to hook over the wagon axles. I use a one and one fourth inch auger all around. I take the two hind wheels of a wagon,



FODDER DRAG.

make a tongue in it, and in this way I can haul as much fodder as two men can on a hay-frame.

HENRY B. LAMMERT.

Missouri.

IRRIGATION.

We have in California two points which show what great results have been attained from the old plan of surface irrigation, which is older in practice than man's history. It is practiced to-day with no essential change from the method in use at the first dawn of history. In fact, there are ruins of greater irrigation plants in the old past than any now in use. These two prominent examples of changing arid desert places into fields of beauty and orchards of profit are River-

side, in the south part of this state, and Fresno, in the south center. The rainfall at Riverside averages eight and sixteen one hundredths inches yearly; at Fresno, nine and fifty-seven one hundredths inches—all in the winter season. This amount is not sufficient for any crop. Except in seasons of the greatest rainfall, crops of the small grains, orchards and vineyards could not possibly be started in growth at either place without artificial watering. Yet, after ten or fourteen years, these places are surrounded with large and profitable orchards and vineyards, and ship to the markets of the world thousands of carloads of fresh and dried fruits, raisins and wine.

In the once arid and forbidding valley of the Santa Anna river, ten acres of which would hardly pasture one jack rabbit in the summer season, is Riverside, surrounded by a nearly perfect paradise of fruits, vines, flowers and beautiful trees, and the pleasant homes of hundreds of happy people. Riverside Navel oranges

are considered the finest in the world. The simple bringing and distribution of water made this arid desert of rich soil bloom with tropical luxuriance.

He had a brave heart who first set out to make a home at Fresno. Fourteen years ago it was a dreary stretch of most inhospitable, level, sandy plain, without a green thing in sight in summer, except the settler himself, over which the summer winds rushed like a hot blast from a fiery furnace. The slight rains of winter had their moisture all dissipated by the breath of the first hot days of spring, and I am confident that the subsoil, ten to twenty feet below the surface of the plain on which Fresno now stands had not been thoroughly moistened for hundreds of years. One of the first settlers told me that in digging for water, the earth was as dry as dust sixty feet down, and when they reached water at sixty-five feet, it was warm enough to wash grease from his hands without soap. He was most certainly a brave man to undertake to grow trees and crops in such a location. But he could see that the soil was very rich, and if he could bring water to the soil, the water, soil and climate would do their part if he did his. He persevered.

His twenty-acre tract has brought him independence, and he can now, in his old age, rent it out for an income sufficient for all his wants.

Fresno is a success. The world has heard of it, and knows of its success. Its greatest product, raisins, has reached every hamlet in this broad land. It has competed in foreign markets, and "not got left," with the finest products of other favored climes. Besides, she produces immense quantities of other fruits and crops of such size and quality that the world cannot excel them. They, Fresno and Riverside, are rich, prosperous communities, as well as hundreds of others in the south half of California, made so entirely by irrigation.

Fresno is in the great San Joaquin valley, an apparently level plain of thousands of square miles, surrounded on every hand by high mountains, which are capable of furnishing sufficient water to irrigate the whole plain. Nearly every square mile of that great valley is as good, or better, than Fresno. To many points water has already been brought. Merced

has now water enough to thoroughly irrigate double the amount of land that Fresno has, and has, I think, much better soil and is nearer market. The climate of this great valley is essentially the same throughout.

It is hard to judge how many people this valley would support, when all under sufficient water. Certainly more to the square mile than Holland or any other of the more densely populated regions of Europe, for its growing season is very much longer and has the heat to rush crops to maturity, so as to make several in succession; and its soil is rich enough for anything. There is no data to estimate by. Great heat, rich soil and water make crops; it has the three, when it gets the water.

Under the present system of surface irrigation, without underdrainage, the life of all of these now seeming paradises for immense crops is that they must, they will, fail and go back to utter ruin. History tells us of no arid region brought under cultivation by surface irrigation with river, spring or artesian water, but what has, in a longer or shorter period, become unproductive and starved out the people or nation who so treated it. I mean, of course, level, arid regions, with hot, summer climates, rainless in summer and with great, flooding rains in winter, and without a chance for the water of these flooding rains to flow away to the sea.

D. B. WIER.

CARE AND MANAGEMENT OF COLTS.

Breaking colts is an easy matter, if not deferred too long. Colts, to make good, safe horses, must be handled young. As a matter of course, they vary in disposition. But there is one thing, you must make the colt understand you are its master. Halter it at four weeks old, tie it beside its dam, give it oats; if it struggles at the halter, pat it, talk to it, treat it about as you would a boy. Never leave it until it has done as you wish it; do not tease it, resent its inclination to bite, strike or kick; rub the fork-handle and shovel against its heels and legs; make it used to noise, bells, blankets and robes; if frightened, pat it, talk to it, give it to understand you are its friend, and it will have confidence in you. Teach it to come at your whistle, and give it something when it does. No matter how dark it is, or where my colts are, if they can hear my whistle they come on the run, and I always greet them kindly. I think a colt safer and a truer, better horse if broken young to harness; but nothing but light driving should be expected until rising four years old.

Break your colt with a quick, active horse. It makes a better walker and driver. When you want it to draw, commence light, increase gradually, and the colt will think it can draw anything. Teach the colt to stop at "whoa" and use the word "steady" if you want him to go slower. Shove the gearing into him, rattle the whistle-tree against his heels, teach him it is nothing that will hurt him, and should anything give way, it will hold the load coming down hill—at least, such is my experience. Feed the colt anything it will eat. I never had a case of colic by changing feed; but I always used salt when I changed. Never feed heavy; water freely while on the road. There is more danger in watering a horse after letting it go too long without it. If you have driven hard all day and cannot feed or water, put him up, giving hay first, water in about an hour, and then feed oats. See that he is well taken care of, and he will be all right in the morning. I have had twenty-five years' experience handling horses, and never lost one yet nor had a runaway, but in break-downs, tip-overs and accidents I have had plenty, and came out O. K.

PRACTICAL FARMER.

A SALARY.

With expenses paid will come handy to anyone who is now out of employment, especially where no previous experience is required to get the position. If you want a position, see advertisement on page 173 headed, "A Chance to Make Money."

COLLEGE CORNER, OHIO, Jan. 11, 1890.

Publishers Farm and Fireside: I received your picture, "Christ Before Pilate." It is a beautiful picture and a nice present. Thanks for it. I do not understand how you can afford to give the picture and the paper for fifty cents. Am an old subscriber to FARM AND FIRESIDE and think it the cheapest paper published in the United States.

WM. CASEY.

Our Farm.

GROWING VEGETABLE PLANTS.

BY JOSEPH.

No man was ever more competent to speak with authority on the subject of growing vegetable plants than Mr. Peter Henderson, whose death by influenza is just announced, and who during his active life has grown and furnished to his patrons millions upon millions of all kinds of vegetable plants. At first, Mr. Henderson grew all these plants in cold-frames and hot-beds; since a more recent time, however, they are all started in greenhouses. Mr. Henderson, in his lecture, extract of which was published in *FARM AND FIRESIDE* of January 15th, gave the following account:

"We make our first sowing February 1st, in our greenhouses, where the temperature will average about 70 degrees; that is, about 60 degrees at night, and about 80 degrees during the day. When there is not the convenience of a greenhouse, a hot-bed will answer the same purpose. A hot-bed, made with manure, about two feet deep, in a proper manner, produces just about the same temperature and general conditions as a well-appointed greenhouse will. We now invariably sow the seed in shallow boxes (those used in the importation of tin) which are 1 3/4 inches deep and about 20 inches long by 14 wide. We use any light, rich soil for the purpose, sowing enough seed in each box to produce 1,000 to 1,500 plants, or if sown in the hot-bed, without the boxes, each 3x6-foot sash should grow about 5,000 plants, but we find it more convenient to use the boxes than to sow in the soil, put direct on the bench of the greenhouse, or on the manure of the hot-bed. The plants sown on February 1st, in a temperature averaging 70 degrees, will give plants fit to transplant in about three or four weeks. We then use the same kind of shallow boxes, putting in the bottom of each about three fourths of an inch of well-rotted manure. Over that we place an inch of any ordinary, rich, light soil, smoothing it so as to have it as level as possible. In these boxes, which are 14x20 inches, we put an average of about 150 plants. After transplanting into the boxes, they are continued to be grown in the same temperature for about ten days; they are then placed in a temperature averaging 55 degrees, where they are allowed to remain for ten or twelve days, and finally are placed in cold-frames. The boxes should be placed as close to each other in the cold-frame as they will stand—about eight boxes fill a sash, thus holding about 1,200 plants. If the weather is cold, they are matted; if not, the sash will be sufficient protection. For the past five years we have each season grown about half a million of cabbage, cauliflower, celery and lettuce plants in this way, and have never failed to get fine plants, much superior to those raised by the old cold-frame plan of sowing in the fall.

"Plants sown on the first of February are transplanted into the boxes about the first of March, and are fit to be placed in the cold-frames about March 10th or 15th, and make fine plants to transplant to the open ground any time after the first of April, if they have been carefully attended to by watering, airing and protecting from frost. These dates refer particularly to the vicinity of New York City, where we can plant out usually in the open ground all kinds of cabbage, cauliflower and lettuce plants from April 1st to 10th. If in districts where they cannot be planted out sooner than the end of April, then the sowing should not be made before the fifteenth of February, and the process of transplanting, etc., gone through as before stated, so that the plants will be in condition to plant in the open ground by end of April. In sections where cabbage cannot be planted in the open ground before the first of May, the sowing should be delayed until nearly the first of March, and the process of transplanting in the boxes or frames the same."

I think these plain, practical and explicit instructions will come acceptable to many of our friends just at this time, for in most northern localities, all through New York north of city, Ohio, and all

through the West, middle of February will be found fully early enough for starting the plants.

Tomato plants, for earliest use, may also be started now in greenhouse or hot-bed, but crowding them should be avoided at all times. For main crop, March and even April will be early enough to sow tomato seed.

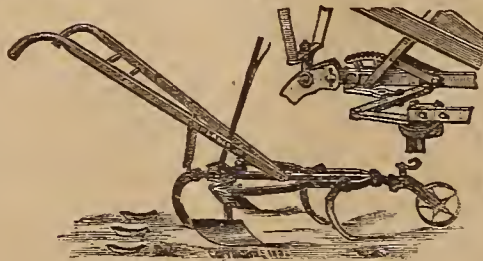
Orchard and Small Fruits.

CONDUCTED BY SAMUEL B. GREEN.

GRAPE ROT.

The result last year from the application of the Bordeaux mixture to grape vines, to prevent rot, was very generally successful in saving 80 per cent of the fruit, and yet a few cases have been noted where the good results did not show themselves. One case is that of a grower in Luthersville, Md., who has a vineyard of one hundred and twenty-five vines, embracing fifteen varieties, who suffered an absolute loss of crop from rot. The disease appeared first about the 26th of May, and was apparently continuous from its incipency. During the season there was an unusual amount of moisture. Bordeaux mixture was applied three times—May 18, 22 and June 3—without any beneficial result whatever. Such results are very discouraging, but the poor effect of the fungicide was probably due to the unprecedented rains, which washed off the Bordeaux mixture. Those who have a like experience should try again, for the benefits have generally been as marked as in this case they were otherwise.

S. L. ALLEN & Co. deserve the thanks of all who use a cultivator, for putting a Lever Expander on their "Planet Jr." horse hoes. The cut given herewith shows



the principle of the improvement. The cultivator is narrowed or widened instantly by simply pulling or pushing the standing lever. They have also made other improvements for the season of 1890.

GROWING SQUASHES IN YOUNG ORCHARDS.

Last season I used most of my young orchard in which to grow Hubbard squash. I think it answers the purpose of shading the ground as well as any crop I know, and furnishes shade only during hottest months of the year, when it only is needed. I have often maintained that corn was the best crop for a young orchard, since it did not cover the ground until late in the season and was cut in time to allow the ripening of the trees. Then, again, I liked it much better than many other crops, because there was no working of the soil around the trees in the fall, which so generally tends to promote a late growth. But as I am situated I can get five times as much money from the squash crop that I can from corn, especially since I now have a most excellent squash cellar in which I can keep Hubbards until the first of March, when they always bring a good price. S. B. G.

APPLES OF OHIO.

At a recent meeting of the Ohio Horticultural Society, Mr. L. M. Bloomfield discussed "Apples of Ohio." In order to learn which varieties are considered most valuable for market in different sections of the state, prominent horticulturists were asked to name three varieties that they considered best in their localities. The state was divided into three sections, northern, southern and central. The result of this vote was as follows:

In southern Ohio fourteen varieties were mentioned, Rome Beauty, Ben Davis, Grimes' Golden, Maiden's Blush, Baldwin and Smith's Cider leading. In northern Ohio seventeen varieties were mentioned, Baldwin, Ben Davis, Northern Spy, Rhode Island Greening, Grimes' Golden, Maiden's Blush and Jonathan leading. In central Ohio nine varieties

were mentioned, Grimes' Golden, Rome Beauty and Ben Davis leading.

Combining these lists into one for the state, the result is, that twenty-six varieties are named, Ben Davis receiving eight votes, Baldwin seven, Grimes' Golden and Rome Beauty six each, Maiden's Blush five, Northern Spy four, Jonathan three, Rhode Island Greening, Red Astrachan and Stark two each.

Mr. Bloomfield examined a large number of apples and ascertained the proportionate weight of seed and total waste, amount of water, etc., in each. The following is the per cent of waste: Grimes' Golden, 18; Smith's Cider, 16; Baldwin, 16; Jonathan, 14; Golden Russett, 14; Northern Spy, 11. The water and ash were as follows, as far as determined:

	Water.	Ash.
	Per cent.	Per cent.
Smith's Cider.....	82	.035
Baldwin.....	82	.021
Northern Spy.....	85	.094

The large per cent of ash in Northern Spy is quite noticeable. It would seem as if some mistake must have been made in the calculations.

MULCHING ORCHARDS.

West of Lake Michigan, I have reason to believe the best mulching for young orchard trees is good cultivation. In all cases coming under my observation, the mulching for four or five years in succession tends to bring surface-feeding roots to the top, when a sudden cessation of the practice always results in severe injury—if not total loss—of the trees by root freezing. A friend living in Nebraska lost a fine, young orchard by neglecting the mulching of it after it had been continued for seven years. In this case even the Duchess and crabs were root killed, showing conclusively that mulching favored a shallow habit of rooting. And yet, I believe in any system of shading the soil during the heated term. We cannot do this by covering the whole surface after the spring cultivation with marsh hay, as is done by some pear growers in New Jersey; but we can do it by annual sowing of Japan buckwheat about the first of July. As many are prejudiced against this crop, I would request a careful trial of it in the orchard by sowing half of the land three years in succession with buckwheat and managing the other half in the usual way. I think all will find—as I have done—that the half shaded with buckwheat will, in three years, show larger, cleaner and healthier trees than the other half, and its first crop of fruit will be more abundant, more uniform in size and excellent in shape and color. I said Japan buckwheat, as, since its extended trial, I find it a more certain crop than our old sorts, and it answers the purpose of keeping the soil moist and cool quite as well.

PROF. J. L. BUDD.

INQUIRIES ANSWERED.

BY SAMUEL B. GREEN.

Everbearing Strawberry.—S. W., Russellville, Oregon, writes: "You can tell S. G., Charleston, Mo., that we have an everbearing strawberry here, which we have named 'Everbearing,' as it bears continually from spring until late in the fall. It has been successfully cultivated here for five or six years, and was originated at Mount Tabor."

Budding in the Spring.—E. M. W. L., Cardington. The spring is not a good time to bud trees, but it is sometimes done at that season in order to hasten growth. It is not nearly so successful as August budding. The operation is the same as for August budding, except no attempt should ever be made to remove the wood from the bud. The buds may be cut in the fall, during the winter, or at any time before growth starts in the spring. They should be kept dormant by being kept cold until the sap flows enough to allow of the bark peeling easily.

Varieties of Fruit for Canada.—P. W., Ontario, Canada. The Howell is certainly a good fall pear, where it will grow, but I should think you were located too far north for it. Do not know the best varieties for your location, but am quite confident that the Russian pears, Bessemianka and Waxen, will do well with you. The Wild Goose plum will not probably be of much value for you. It seldom, if ever, fruits well so far north. The DeSoto, I think, is the best of our northern native plums, and you will like it. The Weaver and Forest Garden are also very excellent native varieties of the northern type.

Strawberry Root-Borer.—J. H. S., Jackson county, Oregon. The insect which you describe is undoubtedly the ordinary strawberry root-borer. It is very destructive to strawberry

plants, and also to the terminal fruit buds of the peach, when very abundant. The eggs are laid by a moth, in the latter part of July, on the crown of the plant. This soon hatches out a caterpillar, which burrows through the roots and crown of the plant, remaining in one of its burrows until the following June, when it changes to a chrysalis and then to a moth shortly after. The effect of the borer on the plant is to cause it to wilt, and probably to die. If the plant survives the attack of the borer, it is generally barren of fruit.

REMEDY.—There is no way of destroying this pest except by burning the infested plants. In planting anew, get plants from a bed which is free from this insect.

Cranberry Culture.—C. A. B., Geriug, Neb., writes: "I have a marsh on my land, from which runs quite a large stream of water all the year around. It can be drained, and the water made to run where wanted. The marsh is covered with water at the present time, and also with flag, bullrushes, grass and some weeds. There is considerable alkali in the soil, but not as much as in the surrounding land. The water running from and through this marsh is good drinking water. The top soil of the marshy land contains a large per cent of vegetable matter. Now, I wish your opinion in regard to climate, soil and best way to prepare for planting the same, the best way to plant and where to procure plants, etc."

REPLY.—Certainly, the conditions which you mention as having are the essential ones for successful cranberry culture. Your climate is all right for them. In preparing the bed, you should plan to control the water supply at any time. The plants are very cheap, and may be obtained through any of the large nurserymen. A better way, however, of securing the plants is to get them from some bearing bed in your vicinity. Some plants do not bear fruit. If you are thinking of going into the business, you had better send for "Cape Cod Cranberries," by James Webb, Orange Judd Co., New York. Price 40 cents. From it you can get a detailed idea of the successful carrying on of the business.

Seedling Fruits—Gas Lime.—J. G. W., Altoona, Pa. Plums will not produce the same from seed, but the northern native plums found in Dakota come much more nearly true from seed than the European kinds which are generally grown in the middle and eastern states. Cherries and pears do not come true from seed, though seedling cherries are more apt to be good than seedling pears. In planting fruit, however, it is never safe to depend on seedlings, for they are unreliable at the best.—Gas lime could probably be used to advantage on your land, though this can only be told by experiment. Fresh gas lime is poisonous to vegetation, and nothing will grow for a year where it is applied in large quantity. It should be hauled in the fall and dumped in small piles on the land and allowed to remain until spring before plowing it in. Then it is generally harmless. The difference between this lime and common lime from the kiln is that gas lime has been used to purify the gas, and contains, besides the lime, a large percentage of harmful sulphuric compounds which it took from the gas. By exposure, the harmful sulphuric compounds become beneficial by reason of the chemical change which has taken place in them, and the lime and sulphur form a compound analogous to land plaster, and acts much the same.

Apple Louse—Fruit Seedlings.—S. H. M., Mich., writes: "(1) 'A green louse or midge infests my apple trees. They live on the leaves in summer, and make the leaves curl up. When the leaves fall off they gather on the limbs and trunks of the trees, but they seem to dry up on the trunks of the trees and leave only little black specks on the bark about half the size of a pin head. They have a strong odor when mashed. The limbs of the trees look black and specked. How can I get rid of them? (2) What is the cause of my failure to raise plum and cherry seedlings? I froze apple, pear, plum and cherry seeds in boxes in damp sand, and the apple and pear grew nicely, but not one of the plum or cherry grew. The frost did not seem to crack them open. I planted them in the spring in rows one or two inches deep."

REPLY.—(1) They are the apple aphid, or louse (*aphis mali*), and may be destroyed by syringing with kerosene emulsion, tobacco water (made by steeping tobacco leaves or stems until the color of strong tea), or by a strong solution of whale-oil soap. The remedy will have to be applied several times. This summer all my young apple trees were covered on the new growth with this pest, and we went over them and dipped the ends of the branches into a pail of kerosene emulsion. This we could do very rapidly by carrying the pail in the left hand and gathering the branches in the right, dip them into the pail. This plan was much more economical than syringing, for when a syringe is used much of the liquid is wasted. (Kerosene emulsion has often been recommended in these columns.) (2) Probably your plum and cherry seeds got too dry before they were sown. If you had repeatedly frozen and scalded them I think you would have had better success. I feel certain that if the pits are not much dried, and are sown at once, you will not have any trouble. If the pits are not cracked in the spring they had better be alternately scalded and frozen a few times, or there will not be much chance of their growing. They will not grow nearly so readily as peach pits if once dried.

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Our Farm.

THE POULTRY YARD.

Conducted by P. H. Jacobs, Hammonton, New Jersey.

TESTED LAYERS.

The hens kept for producing the future stock should be of the best. It is unwise to use eggs for hatching unless such eggs are from certain hens that are known not only to be prolific, but which have shown themselves capable of producing hardy, strong and vigorous offspring. In other words, the breeding hens should be tested. No breeder of animals attempts to raise stock unless he knows the sire and dam of each calf or colt retained, as improvement can only be accomplished by knowledge, and by having a purpose in view. So long as the poultryman uses eggs from the general basket for incubation instead of from a few of his best hens, kept apart from the others, he will be unable to make headway. His future stock may be better or inferior. It will be all a matter of guessing as to what the future will bring. When the next generation is bred for superiority, however, it will be only one or two seasons before a marked difference will be noticed in the vigor, size and capacity for production of eggs, and as the hatching season will soon arrive, the best hens should now be selected, mated with a choice male and tested. If they fail to give good results, change them and use others in their places.

A NEW AND CONVENIENT POULTRY-HOUSE.

The plan of poultry-house shown was drawn by Mr. John M. Guion, Jr., Seneca Falls, N. Y., and in his description Mr. G. says:

"The frame of this building is constructed the same as in any other poultry-house. It is 9 feet at front, 5 feet at rear, 10 feet wide, and of any length desired, built of rough boards and siding, with tarred paper between, the roof being of tarred paper and cement. The windows are in front, facing the south, consisting of a row of single sash, three feet from the sill and one foot apart, with a row of small sash lying on the sill eight feet apart.

"The upright part, containing two large sash, is two stories high and is used as a granary, and incubating and brooding rooms. This part can be dispensed with if necessary. The interior shows the valuable points. Two feet above the sill and dry earth floor is constructed a second floor of matched boards, extending from the south side to within two feet of the opposite side, thus affording double the floor space under the roof, leaving a space two feet wide for a hallway. In one corner of the upper floor is a trap door, through which the fowls go below, the door being raised and lowered by means of a cord and two pulleys, operated from the hallway.

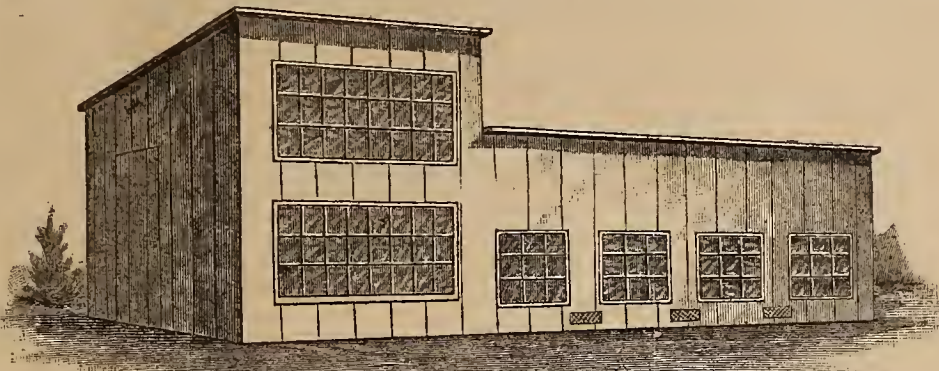
"Above the row of larger windows, below the peak of the roof, is the droppings-board, and over this is the roost, the fowls thus roosting where there is the most

ferred. Wire netting also separates the pens. The dust bath occupies a sunny position near one of the windows on the upper floor, but is not shown in the illustration. The small windows below not only afford light but can be used as slides, to allow fowls to go in or out. The attendant enters the pens by small doors opening into the hallway."

A house 10x10 feet should accommodate a dozen fowls comfortably, or even twenty hens (if house is kept clean), and the yards should not be less than 10x100 feet. Changeable yards are better, as they can be kept in a clean condition.

PURE BREEDS FOR IMPROVEMENT.

Pure bred poultry can be seen in every neighborhood, yet it requires but a few seasons for a flock to deteriorate, unless



A NEW AND CONVENIENT POULTRY-HOUSE.

new blood is introduced each year. Improvement, to be effectual, must be constant, and to buy a sitting of eggs, or a male, for improving the flock, without aiming to elevate the quality and standard of the flock each succeeding season, is wasted effort. Profit from poultry, like profit from every other department, is derived by the use of the best, which saves cost and labor, and the way to succeed is to aim to secure the greatest amount of poultry and eggs by keeping up the quality of the flock.

THE POULTRY SHOWS.

There will be a large number of poultry shows this season, and every person interested in poultry should attend them. More information can be gained in a single day by an inspection and comparison of the breeds, than in any other manner, as the birds are ranged in rows of coops, labeled, and also the number of points scored by the judge. Shows should be encouraged, as they perform efficient service in bringing the best birds together and in disseminating information. If you have specimens worthy of being exhibited, take them to the shows, but do not fail to be present yourself.

PIGEONS FOR MARKET.

In response to a request to state how to keep pigeons for market, we will mention that in the first place pigeons (the adults) are not salable, the squabs only being in demand, and for some cause the white squabs bring more than the colored, a preference which applies to color alone, as there is no difference in the quality.

It is not profitable to raise pigeons if they are allowed to fly off at will, as they have too many enemies—cats, hawks, boys and pot hunters making sad havoc with them. The safer plan is to have a place for the pigeons under shelter—a pigeon-house—with plenty of nests, and an abundance of nest material, such as grass, shavings, cotton or anything that will answer, from which the birds will line and arrange their nests. Keep every part of the house clean and make convenient roosts or alighting boards in the house and yards. The yard should be made of wire, about ten feet high, covered and of any length preferred. The sexes should be equal, as an extra male will quarrel and break up

the matings. Keep a variety of food always convenient, with gravel, coarsely-ground bone, charcoal and a salt codfish in the yard. Water must be plentiful and always fresh. As the old birds feed the squabs, no feeding of the young need be done by the attendant, but care must be exercised in keeping the flock well supplied. About fifty pigeons can be kept together.

CORRESPONDENCE.

ANOTHER FARMER'S WIFE'S PROFITS.—I saw in the FARM AND FIRESIDE of December 15th the question by a farmer's wife, "Does poultry keeping pay?" and thought that my experience might answer that question, and also encourage some others. I am a farmer's wife, but was not brought upon a farm, and when I came on one to live, a few years ago, I knew nothing about farm work; but I soon became

convinced that poultry paid as well as anything on the farm. The past year I have kept an accurate account of the cost of the food, and also of eggs and poultry sold, and this is the way it foots up: January 1, 1889, I had 90 hens, and from those I have sold 1,156 dozen eggs for \$260.30, and 371 pounds of poultry for \$45.39 and have 150 hens now, a gain of 60. These are worth fifty cents each, or \$30, a total of \$335.19 for twelve months. The food for that time cost \$141.39, leaving \$194.06 for the work of caring for them, without reckoning the fertilizer. I sold the poultry alive, but it would have brought more if I could have dressed it. Now, what is there on a farm that will pay more for the capital invested and work done than poultry? MRS. L. H. G. Langden, N. H.

INQUIRIES ANSWERED

Incubators.—Mrs. C. E. A., Holliday, Mo., writes: "Which is the better, the hot-air or the hot-water incubator?"

REPLY:—We use the hot-water, but some prefer the hot-air.

How Many Males.—G. A. T., Osceola Mills, Wis., writes: "Please tell me how many Leghorn roosters will be needed for a hundred hens. The hens have the run of the farm."

REPLY:—We think six males sufficient for Leghorns.

Soft-shell Eggs.—S. H. F., Lynchburg, Va., writes: "What will prevent hens from laying soft-shell eggs?"

REPLY:—It is usually the result of the hens being in a very fat condition, from overfeeding.

Hens in Orchards.—W. K., Methuen, Mass., writes: "Do you recommend that hens be permitted to range in pear orchards? Is the droppings a good fertilizer for pear trees?"

REPLY:—It will benefit the trees and also the hens. The droppings will also benefit the trees.

The Best Breed.—E. B., New York City, writes: "Which is the most profitable breed of poultry?"

REPLY:—As each breed has its characteristics, we doubt if we could successfully select from among them the best or most profitable breed.

Home-made Incubator.—Mrs. H. P. C., Red Bluff, Cal., writes: "Please give through the columns of FARM AND FIRESIDE directions for making a home-made incubator."

REPLY:—If you will send your full name and address, with stamp for postage, to editor poultry department, he will mail you the plans.

Probably an Injury.—J. P. H., writes: "I have a Brahma cock that stands constantly on one foot, the head and tail drooping to the ground."

REPLY:—There are so many causes for such symptoms that we can only guess at the cause from your limited details, and believe the bird has injured one leg, which is very painful. Put him on straw and keep him quiet.

Droopy Fowls.—J. B., Mapleton, Wis., asks: "What ails my hens? They lose flesh, fall forward on their head, and after a few days die. They run outdoors in the day time, have a warm place to roost—under granary, partly dug out, but perfectly dry. Food principally oats and barley."

REPLY:—Look for the large head lice on the skins of the heads and necks.

Poultry-house.—E. W. S., Viola, Tenn., writes: "Will you please give us plan of a hen-house for 100 hens? We want to engage in the poultry business on a small scale, and want a house that can be extended or enlarged when occasion demands."

REPLY:—By looking over the issues of the FARM AND FIRESIDE for 1889 we have no doubt

you will find many excellent designs suitable, and we are illustrating newer kinds in nearly every issue.

Is There Any Money in It.—N. B., Jr., Antiz, Wis., writes: "I wish to try the hen business, and wish to know if there is much money in it and the breeds to use."

REPLY:—The amount of money to be expected depends on your experience and management. Some succeed and some do not. For your climate the Brahmas, Wyandottes or Plymouth Rocks should answer.

Statistical.—M. J. S., Frankfort, Ohio, writes: "What is the annual product of the poultry business according to statistics?—Which breed is considered the leading general purpose fowl?"

REPLY:—There are no statistics, as it is impossible to make a census of poultry products. We doubt if any breed can claim a superiority in that respect, as each has its characteristic merits and defects.

Preserving Eggs.—S. R., Skinkie, Ill., writes: "(1.) Will you please publish some recipes for preserving eggs. (2.) Would you advise any one to keep them that way? (3.) Will they sell as well in market?"

REPLY:—(1.) Eggs need being kept only three months to sell at a higher price. To do so, follow these directions: Use eggs from hens not with males; keep the eggs on racks, in a cool place; turn the eggs half over three times a week. (2.) Yes. (3.) Yes.

Questions about Turkeys.—F. A. H., Warren, Ill., writes: "(1.) Is any person hatching turkeys successfully with incubators, and if so, who? (2.) What are the points of the Bronze breed? (3.) Is a male of the Bronze breed, weighing 40 pounds, larger than the average?"

REPLY:—(1.) They can be hatched in incubators, but we know of no one who is making a business of so doing. (2.) Carunculated, red head; horn-colored beak; hazel eyes; bronze plumage; black legs in young birds, pinkish or flesh color in older birds; adult gobblers weigh 32 pounds each, standard; young gobbler, 22 pounds; hen, 22 pounds; pullet, 14 pounds. (3.) Yes.

A Nutshell of Questions.—F. M. O., Palmer, Wash., writes: "(1.) Can I allow my chickens to run at large, care for them well and expect as large profits as if I kept them in an enclosure? (2.) Which breed would you suggest for my use, eggs being mostly sought? (3.) Can I cross White Leghorn on Brown Leghorn with good results? (4.) How many hens should I keep to expect 40 dozen eggs per day? (5.) How many fowls can I keep in a house 14x40 feet?"

REPLY:—(1.) Yes. (2.) The Leghorns should answer. (3.) Yes. (4.) If you secure four eggs a week from each hen you will do well. It is better to expect fewer. About 10 dozen eggs a year (winter, summer and deduct for moulting) is a good average, hence you would require about 1,500 hens to secure 40 dozen (480) eggs daily, on an average. (5.) The house should be divided into five apartments, each apartment 8x14 feet, and may contain 30 hens to each apartment.

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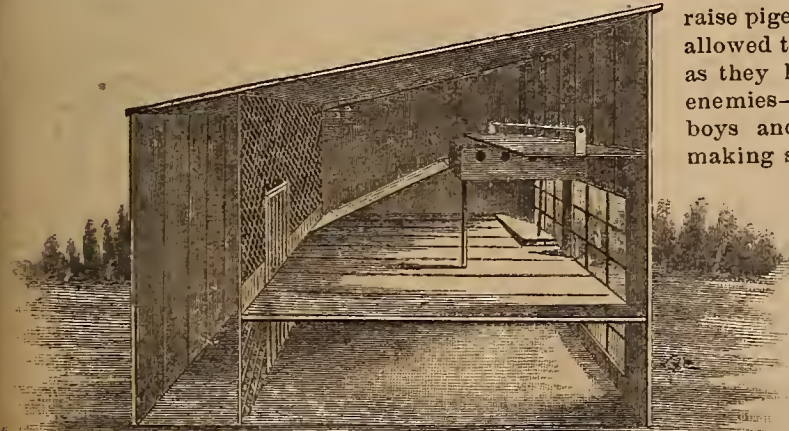
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INTERIOR OF A NEW AND CONVENIENT POULTRY-HOUSE.

warmth. Directly under the droppings-board, to one end, are the nest-boxes, affording a dark place. The nests are reached by a board slanting from the upper floor to the nest-boxes. A wire netting partition above and lath below separate the pens from the hallway, arranging it so that the food and water can be placed in the hallway or inside, as pre-

ferred. Wire netting also separates the pens. The dust bath occupies a sunny position near one of the windows on the upper floor, but is not shown in the illustration. The small windows below not only afford light but can be used as slides, to allow fowls to go in or out. The attendant enters the pens by small doors opening into the hallway."

EXTRACTS
FROM CORRESPONDENCE.

FROM MISSOURI.—We have a splendid fruit country. Peaches as fine as I ever saw grow here, and the apples can't be beat. Raspberries, blackberries and strawberries are being planted extensively. We grow wheat, corn, oats, rye, buckwheat, Irish and sweet potatoes, timothy and clover. Land is cheap.

Olden, Mo.

J. M. M.

FROM MISSOURI.—In wealth, Jackson county is the second in the state. The land is productive, the water good and the climate healthy. For over forty years there has not been an entire failure of crops. Our principal crops are corn, wheat, hay, oats and vegetables, all of which we raise in abundance. Our county has the great city of the West—Kansas City.

Blue Springs, Mo.

W. S. B.

FROM ILLINOIS.—L. F. of Creal Springs, did not say enough for our county. It is underlaid with coal, and many mines are being opened and worked with profit. Egypt, as the southern part of the state is called, never begs her bread, but we have had some short crops in the past. Our land is productive, the largest yield of corn being 104 bushels per acre. This town is noted for the curative properties of its water.

Creal Springs, Ill.

H. L.

FROM CENTRAL KANSAS.—We have a beautiful, undulating prairie country. This part of the state has suffered greatly from drouths, but is improving, and undoubtedly has a grand future. Last season we had plenty of rain, followed by good crops. Last fall the ground was in fine condition, and a large increase of wheat was sown, which is looking well. It is a grand place for chickens and turkeys.

La Cross, Kan.

C. L. M.

FROM KANSAS.—Pottawatomie county is a healthy country. Good water is easily found by digging or boring eighteen to twenty-five feet deep. The soil is sandy to black loam, and produces well. The sandy land will stand more wet and more dry weather than any other, and makes good crops of corn, oats, sorghum and millet. This is a fine stock country, as our wild grasses are very nutritious, and there are six or eight different kinds—some early and some late. Farmers generally commence planting corn in March, and some plant as late as the tenth of July and make good corn. Land is cheap yet, but will not stay so long. Some homesteads not proved up yet can be bought for \$600 or \$800. The sugar industry is creating considerable interest here now.

Nora, Kan.

J. M. E.

FROM KANSAS.—Jewell county, for general farming and stock raising, is as good as any county in the state. Crops of all kinds were good last year. Wheat yielded from ten to twenty-five bushels per acre; corn, fifty, and oats sixty. We are too far from eastern markets to make farming profitable without feeding our corn to hogs and cattle. This country had a boom four years ago, and farmers went in debt for things they could have got along without. They paid a high rate of interest and had a failure of crops; consequently, some lost their farms and are now renting. Farmers are organizing alliances all over this county, and are shipping their own stock and grain. The order is running into politics too fast to be a successful one. Land is cheap at present, and good farms can be bought on easy terms.

Mayview, Kan.

H. K.

FROM MISSOURI.—Grass and fruits of all kinds make good, average crops. This is a fine stock country. Along the banks of the streams there is plenty of hard-wood timber for fuel. We have limestone quarries, and also the finest of sandstone, under which there is excellent coal in abundance. We are on or near the Ozark divide, at an altitude of 1,200 feet above the level of the sea, so the climate is mild, both in summer and winter. Health is good, there being no swamps or marshes to breed malaria. About one tenth of the country is timber, the remainder undulating prairie. There are no hills or bluffs, and the surface soil is generally clear of stones. Improved farms can be had at from \$15 to \$40 per acre; unimproved prairie or timber, from \$5 to \$20. The population of Golden City is 1,300, with good prospects for the future.

Golden City, Mo.

F. H.

FROM ARKANSAS.—I do not know of such a cotton field east of Carlisle as described by W. M. in FARM AND FIRESIDE of January 15th. Some of the cotton on the prairie made from 1,400 to 1,600 pounds per acre. From what I can learn from my neighbors and friends, the smallest amount of cotton made per acre in this neighborhood was 900 pounds. What I said in December 1st issue of FARM AND FIRESIDE about corn, beans, peas and melons on the sod, I know from experience. Pumpkins, also, make a splendid crop. Irish and sweet potatoes do well here. The early crop of Irish potatoes cannot be kept through the summer, but two crops can be raised on the same ground. The second crop can be kept through the winter. Sweet potatoes can be kept very easily. Milch cows are fed

on cotton seed and crab grass or prairie hay, instead of corn and tame hay as in the North. Cotton seed costs but one fourth as much as corn, and is just as good for producing butter as corn is. Tame grasses are grown here, although not extensively. Some of the farmers are raising as fine clover, red-top and timothy as can be grown anywhere. The health of this section is very good, generally.

Carlisle, Ark.

M. E. B.

FROM HONDURAS.—I suppose a few lines from Honduras, Central America, would be acceptable to your readers. I have only been here a few weeks, and have found a great many strange and curious things. The lofty, red clay mountains are covered with green vegetation, and everything looks like summer. There is a great variety of pretty birds. The people look sickly and thin, but I think that is mostly caused by their filthy way of living in dirt houses. They live chiefly on fish, bananas and the remnants of cassava after the starch has been taken out. I see very little tide in the ocean, and that very irregular. This is the rainy season: It commenced in September, and will last to the first of April. I have seen very fine marble and granite rock; both are in endless quantity. Out in the interior are several gold mines, but all have suspended work until the rainy season is ended. This country is filled with valuable woods, such as cedar, mahogany, etc., which large steamers are carrying to foreign countries. Agriculture is not practiced here. The natives will sometimes take large knives and clear up a small patch. They make holes in the ground with a sharp stick and plant a few hills of corn for their own use. They have ten or twelve coffee trees, two or three orange trees, a bread fruit tree, and probably two or three other volunteer varieties, and about one and one half acres in banana and cassava, and that is the extent of their farming. It seems hard for a taxidermist to come to this country and have to pay \$1 per pound for powder, twenty cents for shot, \$5 per sack for salt, and many other things in proportion.

Truxillo, Honduras, C. A.

J. B. H.

FROM TEXAS.—Hill county, located in central Texas, is bounded on the west by the Brazos river. The famous belt of "cross timbers" runs directly across the western portion of the county from north to south. We have three railroads and five flourishing towns, besides many smaller ones. This is one of the richest counties in the state. It ranked third in the production of cotton the past season. We have a great variety of soils and crops. Most of the land is black, waxy, and black, sandy loam and red sandy. The face of the country is level, just undulating enough to drain well. It is estimated that more than 90 per cent of the entire county is tillable land. Crops of all kinds were better last season than for the past three or four years, and our people are in the best of spirits, and most of them will be able to go through the present season without going very much in debt to their merchants. I am glad to note that the farmers of these parts have become convinced of the importance of raising their own supply of meat. Some of our state papers have raised the "hog and hominy" cry, and so thoroughly convinced the farmers on this point that I predict that the St. Louis and Kansas City packing houses will furnish but little bacon to our people in the future. This is a good stock country; the climate is very mild, and feedstuffs of nearly all kinds can be produced here as cheaply as in any country I ever saw. This part of Texas has been revolutionized on the stock question in the last few years, it having been demonstrated that the mouey is not in the "wild-corned" cattle and the Mustang ponies. Stockmen and farmers are cutting down their herds and improving the breeds, free grass being a thing of the past. Lands here are worth from \$10 to \$25, according to quality, improvement and location. Immigrants from the older states are welcomed by our people, and treated with a marked degree of hospitality. We have good society. The "wild and woolly" disposition that used to be ascribed to the Texan need not be feared any more by any one anticipating a visit to this part of the Lone Star state.

Hubbard, Texas.

J. H. W.

FROM CALIFORNIA.—The topography of California is regarded by travelers as akin to the Holy Land. The Pacific coast, in all the generations of the past, has been almost inaccessible to foreign population. We are blessed in the present age of the world with facilities for rapid transportation. I have just been reading the "History of the Donner Party," by C. F. McGlashan, former editor of the Santa Barbara Press. It appears that in May, 1846, a train of emigrants was made up at Independence, Mo., hailing from Ohio, Indiana, Illinois, Tennessee and Missouri. It comprised 518 wagons. All were buoyant with hope, and the melody of song resounded throughout the camp. At Fort Bridger the train separated, the greater portion going by Fort Hall, and reaching California in safety. A company of ninety, however, were induced to go by way of Salt Lake, thinking to shorten the distance three hundred miles. When they reached Little Sandy river, George Donner was elected captain of the train, and from this time on it

was known as the Donner party. The route was almost impassable; many of their oxen were stolen by the Indians, and some of the men had to walk until their feet bursted, and they fell by the roadside, to perish from exhaustion and starvation. At length they reached the base of the Sierras, but winter coming on, they could proceed no farther, so they erected cabins and prepared to remain until spring. Here they were completely buried beneath the snow, in which steps were cut to allow the occupants of the cabins to ascend to the crested surface. Provisions gave out, and many of them died of starvation. So famished did they become that they ate their moccasins and shoe-strings. The hides of animals, which they had used to cover their cabins, were boiled and eaten as a luxury. Finally they were compelled to sustain life by eating the bodies of the dead. Feeling that all would certainly perish if they remained together, a company of fifteen started over the mountains to seek back relief. Snow-shoes were made by sawing up ox-yokes, and two Indians accompanied them as guides. The Indians refused to eat human flesh, and they became so weak that they lay down to die. One of the party then took his gun, shot them as they lay upon the snow, and stripped their bodies to subsist the living. Finally, relief was sent back to the cabins, and forty-eight out of the ninety were brought through to California, of whom twenty-five are still living.

What a contrast is this with the experience of myself and family in coming to the same country. They traveled in wagons drawn by oxen, we in a Pullman palace car; they were exposed to savages, starvation and death, we had our lunch-basket, supplied with the staples of life, they were twelve months in reaching the Sacramento valley, we entered the same fertile region in a period of six days. Nothing transpired to mar the enjoyments of our trip; even the Indians were at peace with us, and sold us grapes, peaches and melons at the stations. What a wondrous change has taken place since the Donner party set out from Independence, less than half a century ago? But California is a great state. Her agricultural area is greater than that of the United Kingdom of Great Britain and Ireland. It contains forty million acres fit for the plow, and as much more for stock raising and fruit growing; besides, there are mountain pastures which are capable of producing amazing quantities of superior meat. Our state is destined, in due process of time, to become

the happy home of millions of human beings. We have read of men and cattle in Colorado being frozen to death in a blinding snow storm, nearly two months ago. Up to December 25th we did not have cold enough in this latitude to chill the sensitive tomato vine. Is it any wonder that a constant stream of immigration is pouring into this state from the East? I myself have compassed her entire borders, from San Francisco to San Diego, on the coast and in the interior, and in all her natural resources of wood, water, soil, minerals and scenery, I believe she stands unrivaled by the whole sisterhood of states. There is an abundance of government land yet to be taken; many who have occupied their claims for two or three years will sell out for the mere cost of improvements, hoping to better themselves in some other locality, and good opportunities are offered to individuals and colonies to locate here. The orange crop is now being gathered; strawberries are in market every month in the year, and roses, geraniums and calla lilies bloom in the open air perennially. We are just now in the midst of our rainy season, and the whole landscape is bright and lovely. Cattle are luxuriating in a growth of the natural grasses of alfalfa and burr clover ten inches high. Why not, O ye who are plucked with cold, come to make homes for your wives and children in this land of sunshine, of flowers and of health?

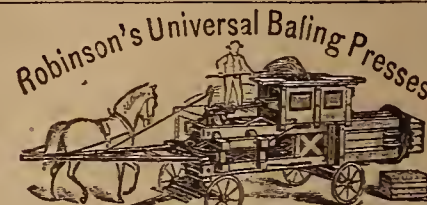
Santa Barbara, Cal.

BUCKEYE.

ORLANDO, ARK., Nov. 30, 1889. The picture, "Christ Before Pilate," was received in good order, and it is all that you said it was. I would not take \$10.00 for it.

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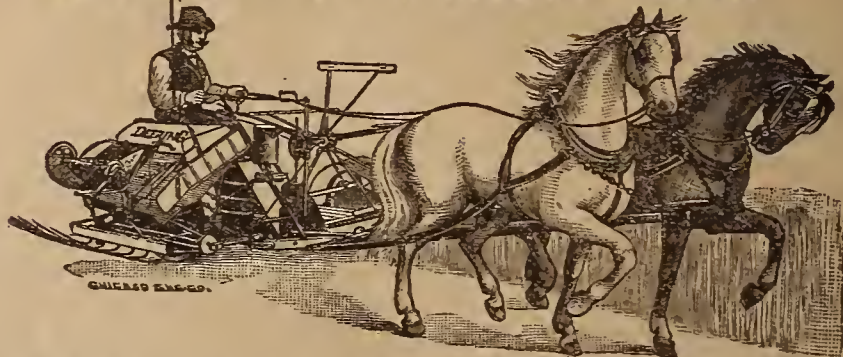
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Queries.

READ THIS NOTICE.

Questions from regular subscribers of FARM AND FIRESIDE, and relating to matters of general interest, will be answered in these columns free of charge. Querists desiring immediate replies, or asking information upon matters of personal interest only, should enclose stamps for return postage. The full name and post-office address of the inquirer should accompany each query, in order that we may answer by mail if necessary. Queries must be received at least two weeks before the date of the issue in which the answer is expected. Queries should not be written on paper containing matters of business, and should be written on one side of the paper only.

Silo.—T. J. C., Wheatland, Wyoming. Send 25 cents to this office for Prof. A. J. Cook's book, "Silos and Silage."

The Dairy World—Butter Extractor.—J. E. Vernal, Utah. The Dairy World is published in Chicago, Ill. The butter extractor is made by the American Butter Extractor Co., Washington Building, No. 1, New York.

Books on Sheep Husbandry.—H. A., Toronto, Ohio. "The American Merino" and "The Shepherd's Manual" are both excellent books on sheep husbandry. They are published by the Orange Judd Company, 751 Broadway, New York.

Flax Straw for Feed—German Agricultural Paper.—C. W. R., Cosmos, Minn. Flax straw is of no value for feeding purposes. The American Agriculturist, New York, is published in German. Also send for sample copy of the German Agricultural and Horticultural Journal, Times Building 26, Chicago, Ill.

Preserving Posts.—H. C., Elliottstown, Ill. Coal tar applied hot is a good preservative. About three feet of the lower end should be thoroughly boiled in the tar. If the posts are well seasoned, but a few minutes will be required for the operation. You can use either a deep kettle or an oblong one about four feet long.

Land Plaster as an Absorbent—Harrows for Corn.—B. J. W., Fort Jackson, N. Y. Land plaster, or gypsum, is used in stables to absorb the ammonia, and that is an excellent use for it. It is claimed that the compound it forms when so used (sulphate of ammonia) is the form in which ammonia is most available for plant food. Harrows are made by the leading agricultural implement manufacturers that are better and cheaper than those you can make for yourself.

Yorkshire Swine.—A. O. T., Phillipsville, Pa. Yorkshire swine are described as follows. In a report adopted by the Swine Breeders' Convention of 1872: They are pure white, with a very thin skin of pink color, with little hair; are not uniform in this respect, as some pigs in the same litter differ widely in the amount of hair; the snout is often long, but very slender and fine; the jaws are plump and the ears erect, fine and thin; the shoulders are wide, and the hams full. The flesh of these hogs is fine-grained, and they are commended on account of the extra amount of mess pork in proportion to the amount of offal. The tails of the pigs frequently drop off when young.

Bean Rust—Cabbage.—W. H., of Portland, Ind., asks: "What is the cause of bean rust, and how prevented? Also, is a yellow, sandy loam, with gravel subsoil, suitable for cabbage growing, and what is the best way?"

REPLY BY JOSEPH:—Bean rust is caused by a fungus, and the best way to prevent it is by planting healthy varieties on soil where beans had not been grown for a year or two. Remedies are not known. I can see no reason why the soil mentioned should not produce cabbages, if it is made rich enough and well cultivated. Apply plenty of good manure, plow and harrow thoroughly, set good plants at the proper distances, cultivate and hoe frequently, and I think you will get good cabbages.

Lime on Sandy Soil.—A. L. J., of East Towas, Mich., writes: "I have two acres of light, sandy soil, bordering on marsh, wet until recently, but now drained. Am going to plant it to potatoes. Will it pay to use lime in addition to stable manure? If so, how much per acre, and how best applied?"

REPLY BY JOSEPH:—You should not wonder about your fodder corn being poor, so long as the ground was wet and needed ditching. This being done, different results may be expected now. If there is acidity in the soil, lime applied broadcast—say, fifty bushels or more to the acre—would tend to sweeten it; otherwise it will not be necessary to supplement your application of stable manure in this way. You might try lime on part of the field.

Making a Hot-bed.—G. L. P., of Hay Springs, Neb., writes: "Will some one please give directions for making hot-beds?"

REPLY BY JOSEPH:—Make a frame to fit the sashes to be used, set this over an excavation one and one half or two feet deep, so that the frame will be eight inches above the surface in front, and twelve or fifteen inches above at the back. Prepare fresh horse manure containing some litter, and, if possible, one half its bulk of dry forest leaves, by allowing it to become hot through fermentation. Then fork it over, throw it into the hot-bed pit, tramp pretty solid, leaving a little rounding in center. Leave until it becomes hot once more, then put on five or six inches of nice, rich, mellow soil; put on the sashes, and you have a hot-bed ready for planting.

Packing Butter.—R. A. W., Clayton, N. J. If you pack butter in wooden packages, thoroughly soak them, covers and all, in hot brine before using them. Cover the bottom of the tub, or firkin, with a layer of salt about one half inch deep, and over this place a circular sheet of paraffine paper. Pack the firkin solidly with butter that has been properly made, salted and worked, leaving about half an inch space at the top of the firkin. Cover the butter with a circular piece of fine muslin or paraffine paper, and fill up the space with salt. Head up the package. Reverse the firkin, bore a small hole through the head, and fill in with strong brine. Good butter, carefully packed, will keep a long time; but it is useless to attempt to keep butter that is not well made.

Kainit and Wood Ashes.—Wm. A. E., of Muncy, Pa., writes: "What is kainit, and where can it be bought? A firm in Oswego, N. Y. (Munroe, Jondson & Stroup), advertise Canada, unleached, hard-wood ashes, delivered, at \$13 per ton. Is this firm reliable? Who are the most reliable parties to buy bone meal and other fertilizers from?"

REPLY BY JOSEPH:—Kainit is a low grade of potash salt, and its value was fully set forth in one of my recent articles under the heading, "Agricultural Chemistry." It can be had of Paul Weidinger, New York City, who is an importer of kainit, phosphate meal or Thomas basic slag and other fertilizing materials, also from many other parties in New York, Philadelphia, Baltimore, etc. I have good reason to consider Munroe, Jondson & Stroup, of Oswego, N. Y., perfectly reliable. Of course

the value of Canada wood ashes is always variable. Ask them for a guaranteed analysis and its basis, and make your own calculations concerning its value. There are great many reliable parties in this country who sell fertilizers, such as Mapes, Bowker Fertilizer Co., Baker & Bro., Williams & Clark Co., Lister Bros., etc., but I am unable to tell you who is the most reliable of these firms.

Sulphate of Ammonia.—Mrs. H. M. N., Clyde, Ohio, writes: "Please tell me where I can get sulphate of ammonia in a cheaper form than I can buy it from the druggist. Have used it in my conservatory with excellent results, but it comes pretty high."

REPLY BY JOSEPH:—I usually buy my supply of sulphate of ammonia from the large fertilizer manufacturers at the East, by the barrel. It costs from \$60 to \$70 per ton, but I doubt that you can get it in this way in the small quantities which you require for conservatory use. I would advise you to buy nitrate of potash, common sulphate, instead. This is a most excellent fertilizer for house plants, if applied in weak solution, and it can be had of any fair-dealing druggist at a price which at least is not prohibitory.

Butter Not Coming.—S. E. D., Townsend, Md., writes: "I have been making a good quantity of nice, yellow butter, which readily came until within the past week. I now have to churn two or three hours before the butter comes, then it is in small crumbs and nearly white; in fact, of very poor quality, and sometimes it does not come at all. I keep the milk in same place, and treat it in the same way. The cows are salted regularly, and are fed well."

REPLY:—Soon after milking, while the milk is yet warm, pour into every five quarts of milk one quart of hot water. While the cream is rising the milk should be kept at the proper temperature, 45° to 55°. The cream should be allowed to ripen and turn slightly acid before churning. Then use a dairy thermometer and churn at the right temperature.

Killing Dewberry Vines—Salt for Wheat.—J. G. B., writes: "Some of my land is infested with dewberry vines. How can I kill them? Will salt put on them after the vines are cut below the crown, kill them, and if so, when should it be done?—Will common salt be of any benefit to wheat? If so, how much, and when should it be applied?"

REPLY BY JOSEPH:—Close pasturing with sheep will probably destroy the dewberry vines. Salt will not do it. Sometimes salt will benefit wheat and other crops, more generally it will not; and the reason why it does in one case and not in another, is not always plain. Try it on part of the land, say, at the rate of 100 or 150 pounds per acre, applied in early spring. The impure, so-called "agricultural" salt is quite cheap.

Pea Weevil.—W. McC., Walled Lake, Mich. The bug you inquire about is the common pea or bean weevil (*Bruchus Pisi*). Shortly after the plants have flowered, the beetle lays her eggs singly in punctures on the tender pods. As soon as hatched, each little maggot bores through the pod and enters a seed. It feeds on the marrow of the pea, and by the time it is full grown and changed into a winged insect, not much more than the hull is left. It is a little remarkable that the germ of the seed is generally left untouched, and these "buggy" peas will often sprout and grow. No preventive method can be entirely successful unless generally adopted. Late-planted peas generally escape. Put the infested seed in a tight box or barrel, with a small quantity of bl-sulphide of carbon in a saucer placed on them. Keep the box tightly closed for a day or two, until the fumes have been diffused all through the seed. Handle the drug carefully, as it is very volatile and explosive. Keeping the infested peas in boiling water for a short time will destroy the insects without injuring the peas.

Best Fertilizers and Kainit.—J. M. K., writes: "What brands of fertilizers are best for wheat and grass on clay and on gravel, and what is the price of same? What would kainit cost delivered in Sunbury? Please give me name and address of some good New Jersey farmer who is familiar with the use of kainit."

REPLY BY JOSEPH:—I am unable to give the desired information concerning the best fertilizer for your special purposes, nor the best fertilizers generally. It is possible that plain phosphates may answer your needs, and I would try them for wheat on clay soil. It is also possible that all your land may need potash besides, and you should try a fertilizer containing both elements of plant food, or apply some potash salt with the plain phosphate. My articles on "Agricultural Chemistry" should have given you all the information on this subject which can be expected of anybody. The price of kainit in ton lots at the seaports varies between \$12 and \$15 per ton, but I could not say how much it would cost delivered at your station. Concerning the addresses of New Jersey farmers, I do not feel at liberty to publish them, since they might not thank me for it. See my reply to Wm. A. E.

VETERINARY.

Conducted by Dr. H. J. Detmers, Veterinarian of the Ohio Agricultural Experiment Station, and Professor of Veterinary Surgery in Ohio State University.

To regular subscribers of FARM AND FIRESIDE, answers will be given through these columns free of charge. Where an immediate reply by mail is desired, the applicant should enclose a fee of one dollar. Otherwise no attention will be paid to such a request. Inquiries should always contain the writer's full address. Queries must be received at least two weeks before the date of the issue in which the answer is expected. Subscribers may send their veterinary queries directly to Dr. H. J. DETMERS, 34 King Avenue, Columbus, Ohio.

Spavin.—C. S. C., Mineral, Ohio. Consult issue of FARM AND FIRESIDE, of January 15th, 1890.

Cribbing.—N. P., Molnongia, Iowa, writes: "Please give me a remedy for cribbing." ANSWER:—There is none.

To Prevent Scratches.—E. J. S., Rogersville, Pa. A good brush, vigorously and thoroughly applied night and morning.

Ringbone.—M. N., St. Joseph, Mich. The ailment you describe is ringbone. In regard to treatment, etc., please consult issue of June 15th, 1889.

Rheumatic Affection.—H. C., Olena, Ohio. Your description, as far as it goes, points toward a rheumatic affection but does not enable me to make a definite diagnosis.

Anonymous Letters.—Reader, V. L., M. H., and other scurrilous letters. Anonymous inquiries go into the waste-basket. Every one who expects an answer must give his or her name and residence, though not necessary for publication.

Abscess on Mare's Udder.—C. D. D., Lompoc, Cal. Open any abscess at the lowest point, and then fill the cavity twice a day with absorbent cotton saturated with a four-per cent solution of carbolic acid, until it is too small to introduce anything. Besides that, keep the parts clean, but not with cold water.

Cutaneous Eruption.—C. O., Basco, Ill. Unless you give the characteristics of the cutaneous eruption, and state particulars bearing upon the probable cause, etc., I cannot give you the desired information. There are too many possibilities.

Injured by Wire Fence.—S. I. R., Sterling, Ill. Please consult the numerous answers given to similar inquiries in nearly every issue of this paper. No hair will ever be produced on scar tissue, or anywhere, when the matrix has been destroyed.

Small Hernia.—O. P. T., Atwater, Ohio. Whether an operation is necessary or not, depends upon circumstances. Small hernias are, on account of their greater tendency to incarceration, often more dangerous than large ones. As to what you will have to pay for the performance of such an operation, you better ask the veterinarian who will have to perform it. I cannot set a price on other men's work.

Elephantiasis.—J. T. K., —. Your mare is incurable. You may succeed in temporarily healing the sores or ulcers by exact cleanliness and strict antiseptic treatment. If you do not find it too expensive, you may dress the sores twice a day with iodoform. For further information I have to refer you to the already numerous answers given during the last six months to similar inquiries.

Poisoned.—F. B., Galena, Ill. Poisoning with wild parsnips produces symptoms similar to those you describe. Still, it is somewhat doubtful to me whether the calf was poisoned or not, because it takes a large quantity of wild parsnips to have a fatal effect on cattle. Carbonate of ammonia and sweet spirits of nitre, dissolved in water, constitute an antidote.

Umbilical Hernia.—H. C., Olena, Ohio. If the umbilical hernia is not larger than a walnut, and the calf only ten months old, the latter may outgrow it. If not, there will be time enough to operate, say next May or June, or even later. Your bandaging, of course, does no harm, but will hardly effect a cure. Expect you will find a description of the operation in this paper before next summer.

Distemper.—N. H. W., Gneimes, Wash. What ails your dog is simply a chronic, advanced or often called nervous stage of dog distemper, which renders the animal worthless, because recovery—that is, restoration to health—is out of the question. Some improvement, it is true, may be effected, but it does not pay to subject such an animal to treatment, and it is far better to procure another dog.

Fistulous Withers.—L. M. T., Bogard, Mo. Your calf has now what may be called a fistulous withers, and the best advice I can give you is to commit the treatment to an experienced veterinarian. If you do not, but attempt it yourself, or have the animal treated by one not thoroughly familiar with the anatomy of those parts, even if I should give you as complete instruction as space will permit, you not only would tire and become disappointed, but also, very likely, would not succeed.

Weak Indigestion and Unsuitable Food.—M. J. S., Indian Camp, Ohio. Your calf, evidently, has a weak digestion, but even if it had not, the feed you give is, to say the least, unsuitable. Wheat chaff, especially, is indigestible, even for a grown animal, and much more so for a calf. If your calf is yet alive and not beyond recovery when this reaches you, good care, food very easy of digestion and sufficiently nutritious—for instance, fresh milk and good, aromatic and sweet hay—constitute the only remedy.

Paralysis of Pigs—Alleged Remedy for Black Leg.—N. L., Barry, Kan. You might have ascertained yourself what was the matter with your pigs, if you had simply made a post-mortem examination, and had examined the vertebral column and the spinal chord. As to the alleged remedy for black-leg, I cannot but advise you never to take any stock in secret remedies. Health and disease are governed by natural laws, and anything that smacks of the miraculous may be safely set down as a humbug.

Some Cachectic Disease.—O. D. H., Batavia, N. Y. Your filly undoubtedly suffers from some cachectic disease, but whether the same has been produced by unhealthy food, starvation, vermin, worms, exposure, general neglect, or a previously existing acute disease, does not appear from your description. As it is, I hardly think any "cure" possible; the vitality of the animal is already too much reduced. If anything at all can be done besides removing the cause, if known to you, it must be done by good care, easily-digestible, perfectly sound and nutritious food, etc. Medicines are out of the question.

Abscesses.—E. T. M., Seneca, Kan. Your case, evidently, requires a thorough examination by a competent veterinarian. The repeated formation of abscesses looks a little suspicious. If it was a young horse, it might be a case of horse distemper, and, although the same is an aged animal, it seems to me, it is either this, or a pyemic condition that is at the bottom of it. Until you can consult a competent veterinarian, I would advise you to dress the abscesses with a four-per cent solution of carbolic acid. If they present a plain cavity, you may apply the solution by saturating some absorbent cotton with it, and by filling the cavity with the saturated cotton. This dressing must be renewed twice a day.

Collar Boil.—H. C., Olena, Ohio. Such a collar boil, while yet a fresh and fluctuating bruise and nothing more, is best removed by passing a thin seton through it in such a way that the lower opening is at and drains the bottom of the cavity. When this reaches you it will be too late to perform that operation. Hence, to reduce it, you may apply once a day an ointment composed of iodide of potassium, one part, and lard, six parts; exempt the an-

imal from work. If the latter cannot be done, you will have to take the collar to the harness maker, and ask him to remove the stuffing where the collar comes in contact with the swelling in such a way as to make a concave place in the collar of sufficient extent and depth to make room for the swelling, and prevent any pressure upon the latter. If you do not wish to do this, you may use a breast collar, provided the same does not come in contact with the bruise.

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Our readers will please remember that the FAMOUS MFG. CO., manufacturers of the celebrated "CHAMPION" Baling Presses, are no longer at Quincy, Ill., but have removed their entire business to Chicago, where they have erected the largest and most complete baling press works in the world.

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The above offer applies to this paper only, and all subscriptions must be for this paper.

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Our Fireside.

FOR ST. VALENTINE'S DAY.

Fair lady, on this day of love,
My spirit, like a timid dove,
Exulting flies to thee for rest,
And nestles on thy gentle breast.
Thou seemest of my life a part,
A haunting presence in my heart,
A glory in my day-dreams bright,
An angel in my dreams at night;
Like yon pure bow of mirth birth,
A vision more of heaven than earth,
Soft, lovely, beautiful, divine—
But wilt thou be my valentine?

I've looked into thy deep eyes oft,
Where heaven seemed sleeping, blue and soft;
I've gazed on all thy beauty long;
I've heard thy witching voice of song;
I've listened when thy deep words came
As if thy lips were touched with flame;
I've marked thee smile, I've marked thee weep;
I've blest thee in the hour of sleep;
I've felt thy heart beat wild to hear
Love's cadence stealing on thine ear,
And I have been supremely blest
When thou wast folded to my breast,
And thy dear lips were pressed to mine—
But wilt thou be my valentine?

Dove of my spirit! gentle dove,
That bring'st the olive-branch of love
To me when waters vast and dark
Are tossing wild beneath my bark.
Sweet queller of my bosom's strife,
Blest haunter of each thought of life,
Dear brightener of my soul's eclipse,
Sultana of my longing lips,
Queen-fairy of my fairy dreams,
Young Naiad of my soul's deep streams,
Bright rainbow of life's stormy day,
Lone palm-tree of my desert way,
Soft dew-drop of my heart's one flower,
Young song-bird of my spirit's bower—
My star when all beside is dim,
My morning prayer, my evening hymn,
My hope, my bliss, my life, my love,
My all on earth, my heaven above,
On lightning pinions, wild and free,
My panting spirit flies to thee,
And worships at thy burning shrine—
But wilt thou be my valentine?

A Bartered Birthright.

BY JAMES FRANKLIN FITTS.

CHAPTER VII. IN THE WOFUL NIGHT.



R. NEWBOLD wanted to be alone and think over his position. He walked rapidly out to the suburbs, and struck into a country road. The night came on slowly as he went on; he did not heed it, nor the distance between himself and his home.

Only a few hours more than twenty-four had passed since the first threatening shadow of exposure had fallen upon him. Since then the shadows had been gathering dark and deep. He had begun to look with a certain complacency upon George Barnard's knowledge of his irregularities. The young man was in love with his daughter, and he could trust to his assurance that he would not betray him. Some uneasiness had arisen in his mind on account of Barnard's words and manner as they had walked together that evening; but still they were not threatening. Whatever might happen in that quarter, he was sure that he need feel no alarm. Time was everything to him, now, and he was satisfied that no sudden accusation would come from the bookkeeper; he hoped none at all.

But the letter from his wife—that filled him with fresh tremors. He was a trifle surprised, but not in the least agitated by her declaration that she would live with him no longer. Had that been the only announcement of the letter he would have dismissed the subject from his mind at once. Madam might live in Scloga, Indianapolis, or where she pleased, he was indifferent, so long as no public scandal rose from the fact. The only part of the whole letter that strongly impressed him was that relating to the detective. He saw a danger here that was alarming. His wife's caution as to what might happen from this person's greed and venality touched a sensitive chord. He did not recall the man, but his wife's description of him was not reassuring. He might do incalculable mischief by seeking to trade elsewhere on his information. Or, if he came directly to himself—must he submit to pay hush-money, to put himself in this fellow's power?

"After all," Mr. Newbold reflected, summoning a spasm of bravado to his aid, "the only way to treat these things is to face them down. Suppose it can be proved that I have spent some nights with the gamblers, what of it? Not a pretty accusation for me to face, to be sure; but worse things than that have been lived through. Great Scott! But it would create a sensation in the board if it were known, and then it might easily lead to an inquiry."

Here his thoughts stopped. A dozen times he had tried to reason out this contingency and its consequences, and he had always halted at the point where suspicion led to in-

vestigation and alarm. Further than that he could not go.

He paused in his walk. He had reached the summit of an elevation, three miles from Scloga. Dusk was giving way to darkness. He could dimly make out the outline of the town below him by the thousand lights that twinkled from it, while an electric flame shot up here and there.

"I don't think I'm ready to give all that up, yet," he muttered. "No, I'll not be scared; I'll stay and brave it out."

From the darkness of the roadway he saw a figure emerging—the figure of a man. He came straight toward the cashier; he came so close to him that the latter jumped back angrily.

"Fellow, what do you want?" he exclaimed. "If you put it that way, sir, I want a thousand dollars."

The cold chills crept down Mr. Newbold's spine. The man was shabby in dress, rude in speech, and had a coarse face, now that a sight of it could be had. But he did not seem like a highwayman, for neither bludgeon nor pistol were in sight.

"Do you mean to rob me?" Newbold asked. "Why, no, I believe that's not what they call it. I'll introduce myself; you may have heard my name before. It is Saul Budd."

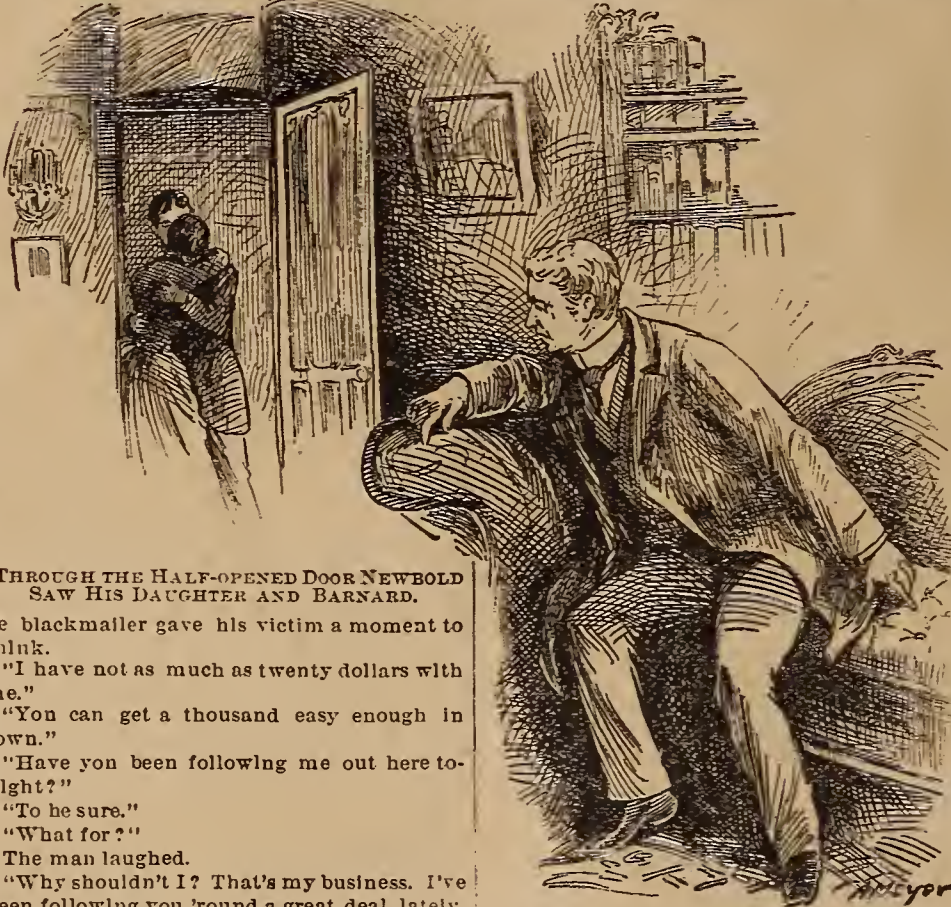
The cashier started, remembering his wife's postscript.

"Ah, I see you have heard of it. I guess we can come to terms pretty quick."

"Fellow, what do you mean?"

"Oh, come, now, Mr. Newbold, don't put on any frills; it won't do with me. Either you pay me one thousand dollars to keep mum, or I'll get as much somewhere else for blowing on you. I guess you know well enough what I mean."

There was no immediate reply. The would-



THROUGH THE HALF-OPENED DOOR NEWBOLD SAW HIS DAUGHTER AND BARNARD.

be blackmailer gave his victim a moment to think.

"I have not as much as twenty dollars with me."

"You can get a thousand easy enough in town."

"Have you been following me out here to-night?"

"To be sure."

"What for?"

The man laughed.

"Why shouldn't I? That's my business. I've been following you 'round a great deal lately, for—for other folks. Just now, I'm looking after you on my own account. I hardly thought you was up to taking French leave—not just yet; but there's nothing like keeping your bird in sight. Are you going to pay me the money?"

"What if I refuse?"

"I'll go straight to old Barkley. I wouldn't wait till morning. I'd go to-night. If the old man was in bed, I'd have him out. Oh, I tell you, sir, people do take a good deal of trouble when Saul Budd calls, for he's always got something to tell, if he's a mind to tell it. He ain't pretty to look at, but he knows some things. So I'll say to old Barkley and his night-cap: 'Nice man you've got for cashier of your bank, now, haven't you?' 'What do you mean?' he says. 'I mean he's lost more than twenty thousand dollars of the bank's money in that den up in the Industrial in the last four months.' 'It's a lie,' says he. 'It's the truth,' says I, 'and for a thousand dollars I'll prove it to you.' And I can prove it."

"Stop!" groaned the victim. "If I give you what you ask, will you promise to let me alone for the future, and to say no more about this?"

"Why, of course," answered Budd, with the tongue of a ready liar, and a familiar wink.

"I'll hand you the money to-morrow."

"Where and when?"

"On my way to the bank. Meet me just this side of my house, a little after nine."

"It won't do, Mr. Newbold."

"What do you mean?"

"I know what I'm about. I've put it in your power to make a complaint against me for attempted blackmail, and have me arrested, if you were hardy enough to try it. I don't think you would, but I'd rather be safe. I'll walk home with you to-night, and you can get me the money."

"There is no money in the house."

"You are a liar!"

The man said it just as coolly as he would have asked the time of day. Mr. Newbold was in a transport of rage. "Now, don't excite yourself, sir," said the blackmailer. "It'll be a great deal better for you to take this thing cool. Of course you keep money handy to go off nights and gamble with. That was only a guess; but I know the habits of such men as you. What do you say?"

"Come along," was the brief reply, and Mr. Newbold strode off toward the town, followed by the blackmailer.

In the same hour the humiliating transaction which put the cashier in the power of this man was consummated. Budd waited outside the house, received the thousand dollars, and disappeared. Half dazed, Newbold re-entered the house. He had not seen his daughter at this time; if he thought of her at all it was with the idea that she had probably gone to bed. Exhausted in mind, feverish in body, he lay down upon a lounge in the library and fell asleep.

He was awakened by the sound of voices. The room in which he lay was dark, but the door was ajar, and he saw that the hall beyond was lighted. Violetta's voice reached his ear, and that of a man. He listened. It was George Barnard's.

"Going away?" she said, with surprise and grief.

"Yes, Vi, I must. It is hard to leave here now; it is like death to leave you. But if you knew everything you would not blame me."

"I know too much, George. I wish kind heaven had kept from me the knowledge of some dreadful things that have come to me. O George, you must stay! I can't bear what I have learned without you to help me bear it."

Through the half-opened door the concealed

from Scloga, or go crazy. I cannot wait another day; I can't bear this strain. Will you not, sir—since I am doing so much for you—will you not in some way explain and excuse my sudden departure? I must keep the good name that I have wrested from the pit where you threw it."

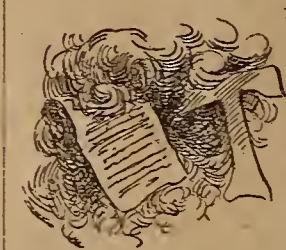
Mr. Newbold listened and spoke not. He merely nodded. A startling possibility flashed upon the mind of the bad man as he heard Barnard's words. Only a possibility; it would do to think of.

The man no doubt loved his child; yet what love is so high and so holy that it will not be crushed down before the greed of gold, the lust of gaming? He heard the sound of a kiss and a sob—the closing of a door. He was alone with her.

"Vi," he said, sternly, "you told him that the knowledge of some dreadful things had come to you. What did you mean?"

Her eyes were tearless, now. She took a paper from her pocket and handed it to him. It was his wife's letter.

CHAPTER VIII. A DEFORMED SOUL.



HE discovery scarcely gave him a new shock. The hours of late had brought him so many surprises and threats that one more was not to be received with dismay. He thought quickly, as men of brains do

in such sudden, startling situations, and he saw that the time had come when the whole truth must be made known to his child. It was necessary, for reasons that he at once proceeded to unfold to her. It would be painful, but it must be done.

He crumpled the letter and envelope and held them in the gas-jet till they were consumed. "It would be a fine revenge," was his unspoken thought, "if her cool and heartless writing should betray me to all Scloga. I'll destroy that mischief maker."

Violetta sat and watched him, her hands clasped on her lap, her face sorrowful, her eyes distressfully inquiring.

"You read it, Vi, did you?" he abruptly asked.

"Yes, father; I found it on the carpet after you had gone. I did not suppose there was anything private about it, but when I began to read it, I couldn't stop."

Obeys a sudden impulse, she went to him and joined her hands upon his shoulder.

"Poor father!" was all she could find voice to say, but to that storm-tossed soul it spoke volumes. He yielded to the caress, and for a moment was silent. He looked fondly at her.

"Vi, do you think you could go away with me?"

"And leave Scloga?"

"Yes. I'm sick of the town and the people. By and by there will be rumors going about that she has left us for good, and I don't want to stay and hear the lies and the gossip that will be told. You won't give me up, Vi, will you?"

His voice trembled. For answer she stooped and kissed his forehead. She remembered all his kindness.

A flash of sunlight for the moment illumined the darkness that was gathering around him. He went on with something like cheerfulness.

"Yes, we must leave here. We've got nothing to stay for, and, in fact, it's necessary to go. I want you to get a few things ready right away—to-night. You see, it's impossible to tell how soon or how suddenly we may have to go. You'll only need a carpet-sack. We can get everything we want in Canada."

He began to talk with the intention of telling her all. As he went on, he shrank from the wretched avowal. His guilty spirit quailed before those pure, trustful eyes. His vague expressions surprised without at first alarming her. She looked wonderingly at him.

"In Canada?" she repeated.

"Yes. We might go to Toronto, first, then to Montreal and Quebec, and you can see which you like best. We shall have means enough; we can live anywhere. And in Canada I shall be perfectly safe."

The thought that had been constantly with him for the last few hours put itself in words almost without his volition.

She started. Some of the strange things in the destroyed letter returned to her with a new meaning.

"And George can visit us over there, if you wish," he added, hoping to turn her thoughts into another channel. In vain; she had the key at last to much of his conduct that she had not understood.

"What have you to fear?" was her plain question. He couldn't evade it.

"Vi, you must know the whole truth. I want you to go with me, and you have a right to know everything. Your mother, in that letter, reproaches me with being a gambler. It is true; I say it to my shame. I began playing for excitement. I kept on for gain. Sometimes I won, sometimes I lost; but on the whole I have lost heavily. The worst of it is, I have lost money that did not belong to me."

He stopped, hoping that she would not press him. The hope was vain.
 "Whose money was it?"
 "The money of the bank, or of people who had deposited it there."
 "Can't you give it back?"
 "Impossible. I haven't got it; I don't own so much."
 "Why, there is a whole drawerful upstairs. Why don't you take some of that to make good what you have used?"
 "That is not my money, either. It came from the same place. Besides, we shall want it to live on in Canada."

She comprehended his position at last. She knew that her father was a thief. But she did not shrink from him; she was a woman—his daughter.

"Father, give it back!"
 "I can't. It is useless to try. I lack thousands of dollars to replace what I have taken, and they can put me in the state's prison for what I have done already."

Her face was marble now. The two, in the agony of that moment, looked strangely alike. What honest blood of true men and women of



"I WANT A THOUSAND DOLLARS."

other generations ran in her veins, spite of the corrupted currents through which it came to her? In her loneliness her poor heart was crying out to her father, but she resolutely hushed it.

"I can't go with you," she said; "I can't—not that way."

"You don't mean it, V? Why not?"

"I can't consent to live on money that has been stolen from other people. I won't be an outlaw, in Canada or anywhere else. I do so pity you, father, but—O God, help me! That you should tell me this!"

Her arms were around his neck, and she was sobbing on his shoulder.

Not in all the devious ways that he had thus far walked had he known the keen anguish of that moment; not in all the weary years that were before him was he to experience the like. He could look into the future a few days (it might be hours) and witness his own dreadful fall. He could anticipate the scorn, the reproach that were to be visited upon his name. He saw the telegraph burdened with the report of his crimes; he heard newsboys bawling it in every city. All this could be, must be borne; but to bear the mild reproach, to witness the grief of this dear child, to stand before her as a thief—ah, that was hideous! That one hour gave more gray to his hair. He must give her up!

He thought of her as a child, as a girl, as a woman. She had ever been his pet, his darling. She had been the one gleam of sunshine in that heartless home, with its cold luxury and false pretence. And he must give her up, not to death, not to a lover, but because he had himself put a gulf between them that she could not cross.

"It almost breaks my heart, V, but I see that it must be."

She could not speak.

"I must say all I wish to say now, and this same must not be repeated, for I could not bear it. Your mother's letter says that this house is hers; so is the furniture. You are not likely to be disturbed here on account of anything I may do. In the clock-case yonder you will find a roll of bills, all honest money. You may use it as you wish. I can't advise you as to your future. I have no right to advise. You have friends who I hope will not desert you; some to whom I have done great favors in the past will now, I hope, remember them and be kind to you. V, dear child, this is all. Let us not prolong the pain of this parting. I may never see you again. I may be here for days yet, but when the time comes I shall go swiftly and silently. Think sometimes of your unhappy father. He has always loved you."

They tore themselves apart. The man's better nature was stifled. Again he was cold, selfish, scheming, thinking of his future.

He ascended to his own room. He was not yet ready for flight; he hoped to have a day or two more in which to perfect his preparations, but flight might become necessary at any hour. He thought of Saul Budd, and ground his teeth. "Damn him!" he hissed; "I'd like to put a pistol-ball through his heart."

For an hour he busied himself with preparations for a hasty journey, including the selection and trying on of a disguise. He looked at his watch; it was only eleven. The old

fever seized him. He yielded to it without a struggle. He took a large roll of bills from the drawer, extinguished the light, and softly let himself out of the house.

"It may be the last time," he muttered, as he walked rapidly along the deserted streets. "I hope it will be. The strain will kill me."

Daylight found him still at the gambling-table. He was a heavy loser. On no single night had he lost so much. He wished to begin his flight at once, but thought it better to wait for the night train. And he wished to go to the bank again; there were papers in his desk that he must destroy.

Violetta had gone to a sleepless couch, praying for him.

CHAPTER IX.

THE IMPENDING BLOW.

To have entered the building early; to have been found by the janitor or the scrub-woman sitting at his desk destroying papers, might have excited remark. He dared not venture upon that, any more than he dared take the risk of entering and leaving again before the bank was open. He wished to have a night between him and discovery—discovery which meant pursuit. Those unlucky papers in his desk! Why had he not destroyed them before? Now he must wait a few hours longer, with the shadow of Saul Budd haunting him, and the possibilities of new danger in wait.

He went to a restaurant, bathed his feverish head, made a careful toilet, and ordered his breakfast. When it was brought he tasted of it, swallowed some black coffee, and took up the morning paper. A column with displayed heads caught his eye. He read: "Another of them Gone Wrong. Heavy Defalcation in Boston. A Bank Clerk Skips with Forty Thousand!" He heard two men at the next table discussing the news. He could not read the particulars, for his head was dizzy and his eyes were misty. He held the paper so that his face could not be seen, and listened to their comments. One said it was curious to notice how these terrible breaches of trust were mostly confined to the eastern cities. The other said yes, he believed the West was safer, on the whole. Scloga had a proud record for commercial honor and fidelity. No. 1 continued. Oh, yes, the other agreed, her banks, especially, were absolutely safe. Then the conversation glided off to topics of buying, selling, borrowing, lending and speculating.

He was at his desk when the teller's window was raised. He went through the pigeon-holes, culling out letters and folded sheets, which he thrust into his breast pocket.

A man stood at his window and made a slight noise to attract his attention. He wheeled about and saw Saul Budd.

"What do you want?"

"Oh, nothing, Mr. Newbold, only to pass the time of day. Glad to find you here."

The man thrust his tongue in his cheek, and went out. He had reminded Carson Newbold that he was in an unrelaxing grip.

Eleven o'clock came. The cashier was restive, impatient within; outside he was cool, polite, quick and correct as ever. His eyes were often turned to the clock. He wished the hours were winged; that those tardy hands might point to three, and bring him his release.

As noon approached, Mr. Barkley left his private office upstairs, came down in the elevator, and walked leisurely through the bank.

"Good-morning, Mr. Newbold," his deep and hearty tones boomed out. "Hope you're well, sir. No, by George, you don't look so very well, neither. You want a little color in your



"I'LL DESTROY THAT MISCHIEF-MAKER."

face, Newby—a little more beef and ale, and a little less work."

There happened to be a lull in the ordinary business. The president of the Security National was in a complacent humor. He leaned on the counter and continued to chat.

"Guess I'll go into the parlor and read the paper before I go out and get my snack. By the way, Newby, how's young Mr. Bookkeeper getting on? Any more fuss?"

"No, sir." The cashier had not thought of him that morning. He looked over toward his place. "He was here yesterday, sir, but I don't see him here now."

"Not here yet? Why, the devil, sir! It's plump twelve. These boys must be looked after. I wasn't allowed to waste the time of

my boss no such way when I was a young feller, now, I tell you. Jest find out if he's sick, Newby. Better sick than tardy."

The cashier beckoned to one of the clerks.

"Does not Mr. Barnard board at the same house with you, Mr. Hill?"

"Yes, sir."

"Is anything the matter with him?"

"I don't know, sir; I have not seen him this morning."

The clerk hesitated.

"Out with it!" Mr. Barkley cried. "There's somethin' in your face you're not tellin'."

"I heard at the house that he didn't come in last night. I hate to mention it."

"Well, I'll be —, Newby! I guess you was right about that feller, at first, whatever it was you thought of him. If he don't—"

"Good-mornin', Mr. Newbold; good-mornin' Mr. Barkley. Fine day. I've called for that package I left a month ago."

It was time, now, for the cashier again to weaken and blench, but he never quivered. He said "Certainly," while the vulture of fear tugged at his vitals.

"Mr. Hill," he said, "please look in the inner



DISAPPOINTED DEPOSITORS AND OTHERS WHO ARE GROWING SUSPICIOUS.

vault of the safe-chamber and bring me a package marked with Mr. Skelton's name."

"Big, yellow seals," the applicant added.

"Special deposit," he explained to the president, who stood carelessly listening. "Ten thousand. Might want to use it any time; might be months. I've never got used to savings banks and safe deposits. The Security National is good enough for me, sir."

"Or any other man," said Barkley, with a grin. Mr. Skelton pretended to think that the great man had made a little joke in the use of this worn-out phrase, and he laughed immoderately. Another caller was now heard.

"Hello, Newbold! I've come at last for those Porcupine City bonds. How long they been here, 'most a year? They're at par, at last, and I guess I'd better sell."

The vulture tugged again, sharply and fiercely. But the cashier merely requested the clerk to find that package, also.

He could find neither, and he so reported. With an exclamation of assumed impatience, Mr. Newbold entered the great fire-proof vault, searching for what he knew was not there. He came out in ten minutes, perfectly cool and unruffled.

"Very singular, gentlemen, but by no means alarming. I can't lay my hand on either of your packages. Things will get mislaid, even the most valuable things. They are somewhere in the safe or the vault; I'll have both places thoroughly overhauled immediately. Come again to-morrow, and you shall have them. Such matters are under my special charge. Don't be alarmed. Say, ten o'clock."

The men slowly withdrew, with clouded faces. They stopped on the corner outside to talk. They talked so earnestly that a man, then another, joined them and were permitted to hear what they were conversing and gesticulating about. Mr. Marsh also stopped, listened and talked.

Mr. Barkley stared, speechless, at the cashier. The latter calmly returned his stare.

"Why, good God, Newby!" the president asked, in a whisper, "you don't think there's anything wrong about this—do you?"

"I hope not, sir. I tried my best to make it appear to those gentlemen that there was not, but—"

Mr. Barkley mopped his face with a vast breadth of handkerchief, and his great bulk trembled with nervousness.

"Make another search; turn the place inside out. Find 'em, Newby."

"It's useless, sir," was the calm response. "That money and those bonds are not there! They have been abstracted."

"Great Scott! Think of it! Lost, here, with us! I can't believe it! Why—why, what's to be done? Who'd ye suspect, Newby?"

The cashier was capable enough of lying with spoken words, but a simple motion would serve his turn just as well, now. He merely jerked his thumb over his shoulder toward George Barnard's place.

"That boy!" Mr. Barkley gasped. "Could he get to 'em?"

"It is possible, sir. He might, by watching his chance. It looks as though he had improved his time since we took him back. But this staggers me. I never thought—"

"By —, we've got to do something right away! That vault has got to be searched from top to bottom; we'll find out how much of this devilry there is. I'll call a meeting of the directors; I'll get an expert; the books must be overhauled; the—"

"For heaven's sake, Mr. Barkley, be calm; don't do anything in haste. We must—"

He paused. Mr. Barkley was staring at the front of the bank. The cashier turned and looked the same way. The space in front of the teller's window was filled—crowded with excited men with bank-books and certificates in their hands, struggling, urging, almost fighting their way up to the counter. Outside he saw the sidewalk thronged. The street half occupied with more men. The great, plate glass panes were partially darkened by the faces that eagerly peered in, by the men and boys who climbed up on the shoulders of others and could thus see over the iron lattice to the money on the counters.

A run on the Security bank had begun.

[To be continued.]



An Unequaled Triumph.
 An agency business where talking is unnecessary. Here are portraits of Miss Anna Page of Austin, Texas, and Mr. Jno. Bonn of Toledo, Ohio. The lady writes: "I do business at almost every house I visit. Every one wants your grand photograph album, and were I deaf and dumb I could secure orders rapidly." The man writes: "Your magnificent album is the greatest of all bargains, the people generally are wonderful struck and order right. The orders taken last week pay me a profit of over \$100. This is the chance you have been looking for. You can make from \$5 to \$25 and upwards every day of your life. Talk not necessary. You can make big money even though you don't say a word. Our new style album is the greatest success ever known, and the greatest bargain in the world. Double size—the largest made. Bound in richest, most elegant and artistic manner, in finest silk velvet plush. Bindings splendidly ornamented. Inside charmingly decorated with most beautiful flowers. It is a regular \$1.49 album, but it is sold to the people for only \$2. How can we do it? It is the greatest hit of the times; we are manufacturing 500,000, and are satisfied with a profit of a few cents on each. Agents wanted! Any one can become a successful agent. Extra liberal terms to agents. We publish a great variety of libels and testimonials; also subscription books and periodicals. Agents wanted for all. Our agents are always successful. We do the largest business with agents in America, and can give larger value for the money and better terms than any other firm. Particulars and terms for all of above mailed free. Write at once and see for yourself. Address H. HALLETT & CO., Box 561, Portland, Maine.

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Our Household.

WHEN THE BABY CAME.

ALWAYS in the house there was trouble and contention—
 Little sparks of feeling flashing into flame,
 Signs of irritation,
 So sure to make occasion
 For strife and tribulation—till the baby came.
 All the evil sounds, full of cruel hate and rancor,
 All the angry tumult—nobody to blame!
 All were hushed so sweetly,
 Disappearing fleetly
 Or quite completely—when the baby came.
 Faces that had worn a gloomy veil of sadness,
 Hearts intent on seeking for fortune and for fame,
 Once again were lightened,
 Once again were brightened,
 And their rapture heightened—when the baby came.
 All affection's windows opened to receive it,
 Pure and fresh from heaven, and give it
 earthy name,
 Clasp and caressing
 In arms of love confessing
 That life had missed a blessing—till the baby came.
 Homes that were in shadow felt the gentle sunshine,
 Smiling, as if anxious their secret to proclaim;
 Grateful songs were swelling,
 Of mirth and gladness telling,
 And love ruled all the dwelling, when the baby came.
 Hearts that had been sundered by a tide of passion
 Were again united in purpose and in aim;
 In the haunt secluded
 Peace divinely brooded
 Where discord had intruded—till the baby came.
 Little cloud dispeller, little comfort bringer,
 Baby girl or baby boy, welcome all the same!
 Even o'er the embers
 Of bleak and cold Decembers,
 Some fond heart remembers—when the baby came.
 —The Farmer's Voice.

HOME TOPICS.

MACARONI.—A simple and easy way of preparing macaroni is to break it in pieces about an inch long and throw it into two quarts of boiling water with a tablespoonful of salt. Let it boil rapidly twenty or thirty minutes, and then turn it into a colander to drain. Put a teacupful of milk or cream into the sauce-pan, shake in a trifle of red pepper, and when it boils, stir in a teaspoonful of corn-starch previously mixed with a little cold milk. Add a tablespoonful of butter, and return the macaroni to the sauce-pan and stir until well mixed and hot. If liked, grated cheese may be added before the macaroni is put back in the sauce-pan.

TEA-MAKING.—It is almost impossible to teach the average servant girl to make good tea. In the first place, she will let the teakettle boil until all the life is boiled out of the water. If you are fortunate enough to have a hot-water tank on the stove, she will almost invariably fill the teakettle from that, instead of putting in fresh, cold water. Then she will sometimes make the tea a half hour before it is to be used. Sometimes it will be boiled until all the tannic acid is extracted, and instead of a delicious infusion, you will have a decoction not only unpalatable but injurious.

To have tea at its best in flavor, the water with which it is made should be poured on the tea the moment it boils. Have the teapot perfectly clean and hot, put in the tea—a teaspoonful for each person—and pour on the boiling water. Set the pot on the back of the stove where it will be hot, but not boil. Five or six minutes is long enough to bring out the strength and flavor and make a veritable "cup that cheers, but not inebriates."

CORNS.—A friend recently sent me the following simple remedy, which she says has given her such complete relief that she wishes every sufferer with corns to know of it. Soak the feet in warm water a long time, and take off as much of the hard skin as possible; then put around the toe a strip of surgeon's adhesive plaster, sufficiently wide to entirely cover the corn. Wear the plaster until it comes off or wears out, and then repeat the soaking and put on another plaster. The plaster can be bought at any drugstore, and five cents' worth will last a long time. It

must be warmed before applying to the corn, and it will then adhere very firmly.

TRAINING HUSBANDS.—Don't let this heading induce you to think that I have discovered any plan by which wives can train their husbands. It is the boys, the husbands of the future, that I am thinking of. We hear a great deal about industrial training for boys and girls; about business and professional training for both, and something about girls being taught domestic economy and all the arts and sciences which make a good housekeeper, but I have heard very little about boys being trained to be good husbands and to do their part in making happy homes.

It is a proverbial saying among all women that husbands have no adequate idea of the work which a housekeeper must do, and consequently are careless of the extra work they make for her. Would this be so in the next generation if every mother would begin with her little boys and teach them to be orderly with all their belongings, and to wait on themselves? Not only this, but teach them to help mother in every possible way; to keep the wood-box filled with wood and the water-pail with water; to save mother's tired feet by going upstairs and down-cellar for her. Let him put up the clothes-line, turn the wringer and empty the tubs on wash-day, as soon as he is old enough. He will be proud to think that he is growing strong enough to do these things better than mother. Be very sure that you show your appreciation of every helpful act, and let him see that you look to him for assistance.

Boys are not naturally selfish, and every mother who has not a willing, efficient helper in her boy, is herself to blame, and not only must suffer the consequences of her mistake herself, but the future wife will have them to bear also. For your own sakes and for the future wives of your boys, spare no pains to impress upon them the magnitude of woman's work. After they have been accustomed to helping in all the ways they can about the house (and there are few things they will not be the better for having learned to do), they will not think housekeeping is "just puttering around." Teach them that the woman who keeps her house in order, and looks after the comfort of her family in every way, earns as much as the man who furnishes the money part of the partnership, and they will be ready to do as I heard a boy say not long since: "I shall give my wife half of all our income to do with as she likes," instead of asking what she had done with that last quarter he gave her, and talking as if he earned all the money and she and her children spent it, as one poor wife told me was the way her husband did. Begin to train the husbands—yes, and wives, too—in their childhood, and no one will ask, "Is marriage a failure?" in the next generation.

MAIDA McL.

LAVA WORK.

A new effect in decoration is called lava work. It is produced by the use of a peculiar paste or cement, which is soft and sticky when first exposed to the air, but soon hardens, and in a day or two becomes very hard without being brittle. It adheres firmly to wood, glass or other material, and can therefore be used for various purposes. It contains no oil or turpentine, has no unpleasant odor, and requires no mixing or preparation; it is therefore convenient and suitable for ladies' use in home decoration. It is applied with a palette-knife in a sort of "go-as-you-please" manner, taking no pains to smooth it, but rather to avoid any smoothness, and leave the surface as rough as possible, its beauty being, to a certain extent, like that of the Skye terrier—dependent on its ugliness.

After being applied in this way, the paste is allowed to dry for a day or two, and is then decorated with bronze colors, such as are used for lustre painting. First, paint the whole surface in a dark-colored bronze, as, for instance, a dark blue-green, and when this is dry, touch up the higher projections with gold or copper, and the work is finished, the effect depending considerably on the tasteful combination of colors.

This seems a very simple process, as,

indeed, it is, but some of the results produced are certainly very beautiful, and many can hardly believe that the curious antique vase or jar they have been admiring was made from a common glass bottle at a trifling expense, or that the picture frame they noticed as so new and odd, was, in fact, a very old-fashioned, common-place affair, which owes all its present beauty to the work of an hour or two.

Fig. 1 shows a common glass bottle, covered with the lava work and ornament-



FIG. 1.

ed with ribbon. Of course, in a wood cut, the effect of the bronze painting is lost.

Figs. 2 and 3 show two panels, one round and the other square. They are made in white wood, with a wide, beveled edge which is covered with "Vesuvium," or lava work, and the picture in the center painted in oil or water colors. These panels may be obtained in many sizes. Any lady writing to me with her full address, and sending return stamp, I will answer any questions. EVA M. NILES,

8 Allston St., Boston, Mass.

SPRING SEWING.

After the holidays are over the housekeeper settles down to her regular work, which has diminished greatly as compared with either fall, spring or summer work. The children are away at school, and the shortness of the days makes the preparing of three regular meals unnecessary, a midday lunch being quite sufficient and requiring much less time. During this slack season is a good time to do the summer sewing, such as making up underclothing, everyday clothing and bed-linen. Indeed, many of our best housekeepers make a rule of having all their summer sewing done during the



FIG. 2.

winter or early spring months, except their best dresses. Fashion changes so often that it is best to wait with these until summer. For underwear it is not so important that we follow fashion's caprices.

Many ladies prefer unbleached muslin for everyday undergarments. It has several things to recommend it—it wears better and is much softer than bleached muslin; it can be bleached by the dews and rains in May in short time; it does

not turn yellow in washing. A good plan to adopt is the cutting of several garments at once. The seams and facing may be sewed at one sitting at the machine, and the button-holes and general finishing may be done at any time. Unbleached muslin is also to be commended for bed-linen for common use. It always pays to buy the best muslin.

Underclothing, bed-clothing and table-linen ought never to be let get low in stock; one never knows when an extra supply will be needed.

Always add at least one pair of sheets and two pairs of pillow-cases to each bed every year. In making up sheets and pillow-cases, don't tear the muslin. Always fold it evenly and cut it square across. Otherwise, your sheets will not fold squarely, and your pillow-cases will be biased. This same rule applies to table-linen and crash.

Before making up cheviots into men's shirts it should be shrunk; this is done by wringing it out of hot water. Dry and iron smoothly. It shrinks so that unless some precaution is taken the garments often have to be lengthened at the sleeves, and new collars and wristbands must be added after a few washings.

For kitchen aprons, all things taken into consideration, calico is best, if there is any best. Cheap cheviot fades so that after a few washings it is unfit for service. The gingham sold for aprons does not wear well; besides, it fades as badly as the shirting, and both cost nearly twice what calico costs per yard. Six kitchen aprons ought suffice for a year for one woman.

Opinions differ as to the best material for dresses for house work. Gingham shrinks badly and most of it fades quickly, but it certainly wears well. When selecting gingham, that should be chosen which is most closely woven, in which the colors are rather subdued in tone. Some calico will not fade very much. Most indigo blue is to be relied on. Two seven-cent print dresses will wear much longer than one twelve-and-a-half-cent gingham dress, besides giving one a change. Some merchants show a fair grade of print for five cents per yard, which wears so well that three dresses will be sufficient for a summer's wear—by summer here is meant spring, summer and fall. My experience warrants me advising calico for kitchen work dresses and aprons. In buying calico select the close, smooth-woven grade, see that the colors show clearly on the wrong side. In making up everyday dresses it is best to line sleeves and waist with the dress material. If the outside should wear out, and some of us do wear our dresses even to that state where repairs are needed, the contrast is not so great if the lining is of the same material. One thing don't do; that is, line a new dress with old cloth.

It may do in some instances, but it will be a failure in most others. The grade of muslin just above cheese-cloth makes good, cheap lining for light wash dresses. But don't use the best quality of muslin if you expect to wash the dress. The lining will shrink and leave the outside loose and baggy.

For little folks' dresses I know of nothing better than penang. Most of it will stand boiling. For little boys' waists this is best, then some very pretty cheviots are to be obtained. But calico does not last long for boy's wear; gingham is certainly preferable.

There is one thing I would like to speak of in connection with muslin underwear. Some women I find cannot go without

their corsets. They complain of feeling as if they would fall to pieces without the support corsets give. Then there are other women who scorn the corsets for everyday wear. While they do not complain of that "falling to pieces" feeling, they make one think such a thing might occur. There is, I am pleased to say, a happy medium possible. It is a tight waist modeled after the corset cover, made of the best muslin, and fitted snugly; not so snugly, however, as to restrict breathing.

Casings are put up the dart and underarm seams and bones are inserted. These can, of course, be omitted if desired, but the bones are easily removed when the waist is to be laundered. The waist is fastened by buttons and button-holes. This garment is far more comfortable to work in than a corset, and much less expensive than any sanitary or common-sense waist. A well-fitting basque pattern may be used as a model in lieu of a better one, only the waist is cut quite large in the arm-eye and low at the neck. This is done after the garment is fitted. ELZA RENAN.

BREAKFAST PARTIES.

ETIQUETTE FOR THE FARMER'S HOUSEHOLD.

The country housekeeper who wishes to entertain her friends is often deterred from giving a dining on account of the general inconvenience that surrounds her. In many localities, a good cook, whose services can be engaged for even a day, is unknown, and as for waiters they are among the unheard-of luxuries, thus leaving all the labor of an entertainment to the hostess. For such ladies, the breakfast party can be indulged in with much greater ease and comfort, and is a better form of entertainment for the country than the more formal dinner party.

The hour for a breakfast party is from nine to twelve o'clock, according to circumstances. Invitations to a social breakfast are usually written and sent out several days beforehand, and may be a simple, informal note, or written on the lady's visiting card. If the latter is used, below the name write, "Breakfast, Thursday, at ten o'clock, February 25th."

The bill of fare should never be elaborate, but always dainty and tasteful. In the country, where fowls or game may be had in perfection, many choice dishes may be arranged, which may be made to surpass city fare.

It is considered good breeding to serve breakfast with as little formality as possible, and with as few servants. In serving this meal there is very little difference in the setting of the table and other things from that of other entertainments, but, of course, there are fewer and simpler courses. The hostess usually serves the coffee, tea or chocolate from the head of the table, and the other dishes may be served by the host, on the table, or brought from the side-table.

In giving a breakfast party, a lady will wear a simple, stylish costume, and the guests come in walking dresses. The host should conduct the oldest or most distinguished lady present to the table; the hostess follows last, after all the company have entered the breakfast-room.

The following seasonable bills of fare will be useful to ladies wishing to give breakfast parties, and may be modified to suit individual tastes and surroundings:

EARLY SPRING BREAKFAST.

Grapes, Oranges,
Broiled Oysters,
Chicken Croquettes, Broiled Lamb Chops,
Buttered Toast, Rolls,
Crackers,
Lettuce, Radishes,
Chocolate Eclairs,
Coffee, Tea, Chocolate.

SUMMER BREAKFAST.

Strawberries and Cream,
Broiled Chicken, Salmon Croquettes,
Broiled Fillet of Beef,
Fried Potatoes,
Mayonnaise of Tomatoes,
Brown Bread, Waffles, Wafers,
Frozen Chocolate,
Coffee, Tea.

AUTUMN BREAKFAST.

Peaches and Cream,
Melons,
Broiled Partridge, Chicken Cutlets,
Ham Salad,
Baked Mushrooms, Potato Puffs,
Broiled Tomatoes,
Graham Bread, Muffins,
Coffee, Chocolate, Tea,
Vanilla Cream.

WINTER BREAKFAST.

Bananas, Oranges,
Fried Oysters, Porthouse Steak,
Roast Partridge,
Chicken Salad, Poached Eggs on Toast,
Lyonnaise Potatoes,
Mayonnaise of Celery,
Beaten Biscuit, Corn Cakes, Wafers,
Mold Cream,
Cakes,
Coffee, Chocolate, Tea.

RUSSIAN EMBROIDERY.

This work is now very much in vogue among our young ladies. About Christmas time, but too late to speak of it, I saw a very pretty square being made for the center of the dining-table. The material used is fine, shirt bosom linen and hard-twisted, coarse silk, that known as saddler's silk being preferred. The patterns are of the arabesque kind, with threads reaching across from one part to another.

The work is mostly done in button-hole stitch, as used in embroidery; not the one used for button-holes. In some parts of the work where it is necessary to raise it, the pattern should be run with linen floss several times, and a still better way is to use a cord to work over. Much of the material is cut away beneath the pattern, thus making it open. After it is



FIG. 3.

finished and pressed, it can be lined with any color of silk. White or a golden yellow are the ones mostly used; indeed, yellow has entered so largely into interior decorations that it has quite superseded the pinks and blues that used to be used in almost everything.

This embroidery is used for pillow-shams, pin-cushion tops and the centers of table-covers, tidies for the backs of chairs, etc. Its uses are many, and it requires a deftness with the needle that will teach one to be very neat with needle-work. Many of the lace stitches could be introduced where it is intended for an elaborate piece.

This work, too, is pleasant evening work. Sitting around the evening lamp, with some one reading, there is a witchery about the shining needle going to and fro through the work. It is a pity that girls of the present day are abandoning the needle, as there is nothing that gives a sweet, pretty face the repose of the downcast eye as sewing, and the dainty handling of the needle is shown off by the pretty, white hand. There are too many idle hands among our girls. Much of the neat work usually done by hand years ago is relegated to the machine. Our girls are swamped with books to study and read; there is so much else to do—so many kinds of art work to keep up with—that nicely hand-made garments are rarely seen. The girls of the present day are few who can roll a hem, scratch fine gathers, hem-stitch and sew everything as was done even twenty years ago. It almost bids fair to be a lost art.

CHRISTIE IRVING.

ANSWERED QUERIES.

SAUER-KRAUT.—W. D. W., Pa. The trouble was with your cabbage. It should have been firm and white to insure firm, white kraut.

BLUING.—Take one ounce of soft, Prussian blue, powder it and put it in a bottle with one quart of clear rain water, and add one half ounce of pulverized oxalic acid. A tablespoonful is sufficient for a large washing.

DON'T TAKE ANY CHANCES with a Stubborn Cold, but get rid of it rationally with the help of Dr. Jayne's Expectorant, a healing medicine for the lungs.

CURRENT CATSUP, ETC.

To three quarts of currant juice add

3 pounds of sugar,
1 pint of vinegar,
1 tablespoonful of cinnamon,
1 tablespoonful of cloves,
1 tablespoonful of pepper,
1 tablespoonful of nutmeg.

Boil twenty minutes, then cork and seal tight.

This is a fine relish for meat, and as it was asked for we give it at this time.

CURRENT SAUCE.—Any housekeeper who has currant jelly, however, can make a very pleasant sauce for meat by taking 2 tablespoonfuls of mustard, 1 teaspoonful of vinegar, 1 tablespoonful of butter, 1 small teaspoonful of salt,

Yelks of two eggs and a small glass of jelly. Cook until it thickens, when it is ready for use.

CELERY SAUCE.—At this time of the year when celery is so plenty, a nice sauce can be made of chopped celery boiled until tender in as little water as possible, seasoned with half a cup of cream, one tablespoonful of butter, salt and pepper to taste.

BOILED CELERY.—Used as a vegetable is a very palatable dish. Cook till tender and season to taste; serve with drawn butter.

SPEARMINT SAUCE.—Carefully wash the mint and pick it from the stems, chop fine and cover with vinegar. Add a tablespoonful of sugar, a little salt and pepper. Serve in a cup set in a saucer. With English people this is always considered a necessary accompaniment to boiled or roasted lamb.

FRENCH MUSTARD.—Is very much relished by some epicures; this is prepared by slicing an onion in a bowl, covering with good vinegar and let it stand for two or three days. Pour off the vinegar in a basin and add one teaspoonful of pepper, one tablespoonful of salt, one tablespoonful of brown sugar, and mustard enough to thicken. Smooth the mustard with a little of the vinegar, as you would flour for gravy, mix all together, set on the stove and stir until it boils, remove and use cold.

These little relishes add very much to a meal, which without it would be tasteless.

CHRISTIE IRVING.

A NOVEL QUILT.

Christmas is over again, and many pleasant memories and choice gifts are all there is left us now. One gift taken from our neighborhood Christmas tree, was the source of much amusement and interest. It first appeared as a big doll, with false face, bonnet and cloak. Some parties knowing of the present began to pull it to pieces. The dress skirt to the doll was a quilt lining, and the "stuffing" was the batting and outside cover to the quilt. The latter was composed entirely of blocks eight and one half inches square. There are ninety-nine blocks, and scarcely any three were of the same pattern. A great many of them had no duplicates. It was an odd-looking quilt, and very pretty, as the one who set it together took a great deal of pains and spent many moments of study over the placing of the blocks.

Now comes the interesting part. Long before Christmas, friends of this lady were solicited for a block of the desired size. Each and all responded generously by sending calico blocks representing the dresses or aprons in the family. Many sent in blocks from shirting, so that the "gude mon" might be remembered also. In each block was stamped the name of the giver. The quilt is as good as an autograph album.

Now, little girls, this is something you can do for your mother another year. Think of all her dear friends and get them to piece a block for you. Don't forget to piece some of your own and other members of your family. Don't think it is too early to begin another Christmas work; it takes quite a while to get so many blocks together. Be sure and tell them all the same size. So much of our Christmas work is put off until the last month, and then it is hurry, hurry all the time. I am afraid we do not keep our angelic tempers

as we ought, when we are all so tired. Begin early, even if the articles are folded away for a time before Christmas. One of my friends commenced her work in July, and none too soon. Little bits at a time make quite a heap after a while, and in that way we do not notice the expense or work as we do when it all comes at once.

If any one wishes for quilt patterns, I think this lady with the novel quilt ought to be able to furnish quite an assortment. Many of them were taken from back numbers of the FARM AND FIRESIDE.

Topsy.

STRIPED CAKE.

This recipe for a cake has the several merits of being good, economical and pretty. White Part—One half cup of butter and one cup white sugar beaten to a cream; to this add one half cup sour milk in which one half teaspoonful of soda has been dissolved; next the beaten whites of three eggs and two cups of flour. Flavor with lemon. Dark Part—One half cup butter, one cup brown sugar, yelks of three eggs, one tablespoonful molasses, one half cup sour milk, good half teaspoonful soda, tablespoonful each of cinnamon and allspice, two cups flour. This can be made in layers, a dark and white alternately, or in a loaf, as marble cake, by putting in a spoonful of white and dark alternately. If preferred, baking-powder and sweet milk can be used instead of sour milk and soda.

CANNING FRESH BEEF.

We take all the rough pieces that we do not want fresh nor to corn. If very fat, remove the most of it. Boil very tender, salt and roast same as for the table; take from the kettle, remove all the bone and gristle, pick or cut in convenient pieces to go into the cans; then put into a pan, season and set over a kettle of boiling water, cover tight. When hot as you can get it, commence filling a can, and press thoroughly with a stick made like a potato masher, as you fill it, having liquor enough to expel all the air. Fill and seal, using self-sealing cans; if they are perfect there will be no trouble about keeping. All that have used it pronounce it a success. It can be eaten cold or warmed, or in meat pie. Any sized cans may be used.

Palmyra, N. Y. Mrs. T. L. C.

A CURE FOR DIPHTHERIA.

The following remedy is said to be the best known, at least it is worth trying, for physicians seem powerless to cope with the disease successfully. At the first indication of diphtheria in the throat of a child, make the room close; then take a tin cup and pour into it a quantity of tar and turpentine, equal parts. Then hold the cup over a fire so as to fill the room with fumes. The little patient, on inhaling the fumes, will cough up and spit out all the membranous matter, and the diphtheria will pass off. The fumes of the tar and turpentine loosen the matter in the throat, and thus afford the relief that has baffled the skill of physicians.—*Scientific American*.

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For an extended description of this Grand and Valuable Picture, see page 175.

Address all orders to

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Our Household.

PRACTICAL NOTES.

I HAVE been a silent reader of FARM AND FIRESIDE nearly ever since I have kept house (almost seven years), and have received so many helps from its valuable pages that I think it time I was contributing my "mite." But it is quite a problem for one with little children to get much time for writing.

First, I will tell you of a dish-pan, which I got the tinner to make, to drain dishes in. It is a large pan with a false bottom, full of holes like a strainer. This bottom sets up two inches above the bottom of the pan, on little rests fastened to the sides and center of the pan. This leaves them dry and nice to wipe, especially when it comes to spoons and knives and forks, which are so disagreeable to fish out of the bottom of a pan of hot water. Try it and let us hear how you like it.

GRAHAM GEMS.—One coffee-cup of Graham flour, one egg, one tablespoonful of sugar, pinch of soda and pinch of salt, sour milk enough to make a good, stiff batter. Beat well, drop in greased gem-pans that are real hot. When eggs are scarce, I make them without, but they are better with.

I was glad when one of the sisters told what to do for those dreadful pies that were always running over. I often wanted to tell you, it's so easy, and for fear some young housekeeper did not see it, I will give it again. I always sprinkle a little flour in the pie, then moisten the edge of lower crust and press the upper crust firmly down with a fork or spoon handle, and the juice cannot run out.

Moscow, Idaho.

E. E.

CURING AND KEEPING HAMS.

After the pork is thoroughly cold, cut it out, trimming the hams in nice shape. To every ham allow one tablespoonful of saltpetre, well rubbed on both the skin and flesh sides, then take some molasses, and add some finely-ground red pepper, and also a small quantity of black pepper, and cover them well with it, after which put on a layer of salt, and pack them in boxes or troughs, to stand six weeks. Then take them up and hang up a few days to dry. Have ready some thick paper sacks, and put one in each, securely tying it around the hock, so that no insects can get in. Then have a strong twine string and hang them up so that they will not touch. This plan has been a perfect success, the hams at the end of the year being perfectly free from vermin and mould. I have also tried packing hams in hickory ashes after taking them out of the brine, but find no method so good as hanging them up in paper bags.

PICKLED PORK.

Have a brine made by boiling twenty gallons of water, to which has been added one peck of salt, one fourth pound of saltpetre, two ounces pearlsh, one quart of molasses and five pounds of coarse, brown sugar. After boiling, skim well and pour into a cask; and in cutting out pork, cut off all the fat ends and put them in the brine, keeping them at all times well covered, with a weight over them. This will give you fresh pork throughout the summer, and is a great convenience to housekeepers.

LILLIAN LEE.

CONVERSATION IN THE HOME.

Few things are more important in a home than is conversation, yet there are fewer things to which less deliberate thought is given. We take great pains to have our houses well furnished. We select our carpets and our pictures with the utmost care. We send our children to school that they may become intelligent. We strive to bring into our homes the best conditions of happiness. But how often is the speech of our household left untrained and undisciplined? The good we might do in our homes with our tongues, if we would use them to the limits of their capacity of cheer and helpfulness, it is simply impossible to state. Why should so much power for blessing be wasted? Especially why should we ever pervert

the gift and use of our tongues to do evil, to give pain, to scatter seeds of bitterness. It is a sad thing when a child is born dumb, but it were better to be born dumb and never have the gift of speech than, having the gift, to employ it in speaking only sharp, unloving or angry words.—*New York Press.*

FOR COLD IN THE HEAD.

There are a number of ways of aborting cold in the head, but most of them are by the means of quite powerful drugs, which a person unfamiliar with their use is never justified in taking on his own responsibility. The Swiss method of treatment is one of the simplest and most efficacious. It is applied in this way: Half fill a jug with boiling water, and into that put a teaspoonful of well-powdered camphor. Fashion out of writing-paper a funnel with which cap the top of the jug. The camphorated steam should be inhaled through the nose for ten or fifteen minutes, the inhalation being repeated, if required, every four or five hours. If, in spite of its unpleasantness, the inhalation is persisted in, it is said that three repetitions will always effect a cure, however severe the "cold in the head" may be.

SOMETHING WORTH HAVING.

We have just received from Johnson & Stokes, the well-known Seed Growers, their Garden and Farm Manual for 1890. It is a beautiful book, profusely illustrated and contains authentic descriptions of many rare novelties and valuable specialties for Market Gardeners. It will be mailed, together with a packet of seeds of the fine, new cabbage, "All Year Round," a variety equally good for Spring, Summer, Autumn or Winter, to any of our readers who send 10 cents in postage stamps to Johnson & Stokes, Philadelphia, Pa.

NOODLES.—Beat two eggs in a cup until light, fill the cup up with sweet milk, and add a pinch of salt. Mix as stiff as you can possibly roll them, cut very fine, lay out upon a cloth to dry about two hours. Cook thirty minutes.

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Our Sunday Afternoon.

THE SUNSHINE AFTER RAIN.

THOUGH dark and threatening be the skies
With clouds that intervene,
And heaven no longer to our eyes
Smiles in its peace serene,
And lightnings flash and thunders shake
The hills and trembling plain,
We know that when the storm shall break,
There's sunshine after rain.
When on life's paths of strife and toll,
With thorns and bruises sore;
When disappointments roughly toll
The hopes that go before,
And trials rude as tempests fill
The bosom with their pain,
Despair not, but remember still,
There's sunshine after rain.
Aye! It is true, however great
The sorrows that befall,
One day, at least—it may be late—
Some good will come to all
Whose lives, through pain, are lived aright,
And such live not in vain,
God's rest, for them, is full of light—
The sunshine after rain.

VALUE OF KIND WORDS.

Great will be the blessedness of those who have not to weep over harsh words, bitter expressions, or wanton neglect to those who ought never to have been subject to such things. None will ever regret speaking too many kind words, while many will have to weep over hasty ones which made the heart ache, and perhaps hastened the death we had to mourn. If, therefore, you would escape this, and have fewer tears to shed by and by, seek and study to be kind now to those you love. If you desire a happy future, sow the seeds now. Be kindly, gracious, considerate, tender, while you have the opportunity. Seek to cast brightness and cheerfulness at all times in your home. Banish as completely as you can all harshness, meanness, suspicion, and inconsiderateness from your being, so that when the dark shadows of sorrow and death give you sorrow, you may not have to add to it the bitterness of self-reproach, when it will be of no avail. Never forget that the habit which feeds and helps the one starves and hinders the other. Sow kindness, loving words, cheerful smiles so constantly that the heart will be full, and the mind possessed by such influences that there will be no room left for the rank weeds of unkindness to find an entrance or obtain a place.—J. W. Kirtland.

"BEHOLD, HE COMETH!"

In the Old Testament there are twenty allusions to Christ's second coming, where we find one that refers to his first advent. In the New Testament it is mentioned three hundred and eighteen times, or in one verse out of every twenty-five.

There are no future events more clearly revealed in the Scriptures than that Christ is, within a brief period, to come from heaven in person, raise the righteous who have died, judge those who are living, destroy the civil and ecclesiastical powers which usurp his rights and persecute his people, renew the nations that survive, and reign over them with his glorified saints through a round of ages.

The study of prophecy makes those who pursue it both practical and holy. It fills the mind with the counsels and judgment of God about the affairs and events of earth; it reveals what shall be, and thereby lessens the power of that which now is, bringing the spirit under the influence of things unseen and eternal, and thereby weakening that of things seen and temporal. In a word, it calls upon us to relinquish our trust, if any such remains, in the broken reeds of human development, political progress, advancing civilization, science and culture, and to fix it on the One Hope, divinely given—the Second Advent of the Redeemer—with which all promised glories and blessings are inseparably associated.—Word, Work and World.

LOOK HERE, FRIEND, ARE YOU SICK?

Do you suffer from Dyspepsia, Indigestion, Sour Stomach, Liver Complaint, Nervousness, Lost Appetite, Biliousness, Exhaustion or Tired Feeling, Pains in Chest or Lungs, Dry Cough, Night sweats or any form of Consumption? If so, send to Prof. Hart, 83 Warren St., New York, who will send you free, by mail, a bottle of *Flora's*, which is a sure cure. Send to-day.

"NATURAL RELIGION."

"Bob" Burdette, who, not long ago, was regularly advanced to the dignity of the pulpit by solemn ordination to the ministry, thus expresses himself on what he calls "natural religion":

"A friend named Blake, living in Chicago, has sent me a letter on 'natural religion.' It is a good letter, but I don't think I care to order any 'natural religion' just now. In fact, I have quite a large stock of it on hand that I would be glad to get rid of on any terms, if I knew what to do with it. I kind of hate to give it to the purchaser. It never did me any good, and I can't guarantee it as an article that ought to be kept in every household. 'Natural religion' gets into the market early and holds on long. I have seen babies in full possession of it rending their playthings to rags, kicking and yelling with infantile rage as though possessed of many devils, howling for pure 'cussedness' long, long before they were able to lisp a prayer. I have seen little children in full possession of 'natural religion' learning to lie, to deceive, to steal, ill-natured, vain, overbearing, treacherous, bad in a score of ways, and bad in spite of teaching and training, just 'naturally bad.' I have seen the guileless savage of the plains, with never a college or a theological seminary in all his tribe, so full of 'natural religion' that he couldn't get scalps enough to satisfy the unspoiled cravings of the 'natural man,' nor drunk enough to celebrate his triumph when the last prisoner was finally carved up into small fragments.

"For people who enjoy the natural man in all his native naturalness 'natural religion' is, no doubt, sweet and uplifting, and tranquilizing. I prefer it with milder flavors, myself; I like it refined, softened, improved by educational processes. Brethren, there is nothing in the world of animal life that is good in its natural state but an oyster, and he's next door to a clam.

"We will now take up the collection for the fund for ministerial education, and brethren with the naturalistic tendencies will please not chew up bits of paper pulp to fire into the hat. We find that the natural pulp is greatly increased in value, even for natural religious objects, by going through a process of overworking and manufacture in the mills and presses of the treasury department. Even the raw material from the California gold mines has to lose somewhat of its native dross in the mint before it attains its highest degree of convenience and usefulness."

COURTESY TO ELDERS.

Our American people may not lack in depth of feeling, but they surely do fall short in the expression of feeling. This is most noticed in the lack of the little deferences, the tender courtesies, the free, spontaneous signs of affection that render homes so satisfactory and so full of contentment. To give to the white-haired father or mother not only respect but confidence, to tell the joke and the secret to them first, to accord them cordially the central place in the merry-making, may seem trivial matters, yet they are not trivial to those who, in the twilight of life, begin to think they are useless and forgotten; and to question whether they shall be missed when they shall go out into the nearing night. Courtesy is but a little thing, and costs nothing, and if it is due to any one, it is surely to the aged among us, especially when these are our parents.

MULISH OBSTINACY.

God's Word says: "Be ye not as the mule." The precept is still timely and pertinent. Not all the mules in the world have four legs, whatever may be the length of their ears. There are many people who, like the mule, are better at kicking than at anything else. They are forever raising objections. Some of them are in the church. They are always on hand when there is a fuss, too, and usually the fuss is caused and aggravated by their mulishness. Stubbornness is their chief claim to distinction. They may be convicted of wrong, they may be outvoted, still they continue in their course. They will have things go their own way, or they will do their best to prevent them from going at all. And woe to those who make things go in spite of the efforts of the mule. That is where the kicking qualities of the two-legged mule come in play. The Lord save us from men who are "as the mule."



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Our Farm.

FARM AND FRUIT NOTES

BY JOSEPH.

BEST VARIETIES.—Among the many questions that I am asked to answer, there are those referring to "best varieties" of fruits or vegetables for a certain section. An Ohio lady just inflicts upon me the task of naming the best varieties of cherries and plums for the northern part of that state. I hope I have never given anybody cause to think that I claim to know everything. The inquirer should know more about the conditions of her vicinity than I do, and it cannot be difficult to find out by inquiries among your neighbors what cherries, plums and other fruits give the best satisfaction there. Fruits that do well in one locality are often utterly worthless for another not more than 20 miles distant. And if I knew all the local climatic conditions, I would also need to be told for what purpose the fruits are to be grown, for home use, for market, for the canning factory, for drying or for what not. I might say, try the Montmorency, the Governor Wood and Black Tartarian cherries; or the Bradshaw, Lombard, and Reine Claude plums; but such conditional and incomplete advice would not be worth much.

With potatoes, it is quite a similar thing. Some varieties are "best," or considered so, in one place, and often unreliable on different soil in the same township, or on the same soil in another locality. Somewhat different it is with most of our common garden vegetables, although even there the question of local conditions often plays an important part. Usually, however, a vegetable found superior in one place gives promise of showing some superior qualities elsewhere also. I am not at all backward in expressing a decided opinion concerning the merits of any vegetable that I have given a thorough trial; but when it comes to fruits and potatoes, I am somewhat timid.

Suppose you intend to set fruit trees or berry plants, and you are not sufficiently acquainted with the varieties to make out your list. Don't listen to the tree agent's advice. Send for the catalogues of reliable nurserymen—but do not select your varieties from the descriptions found there. Look around you; see your nearest fruit-growing neighbor and consult him. Then see three or four more neighbors and ask them; and if there are still more fruit growers in the vicinity, inquire of them also. Perhaps there is a local horticultural or pomological society in your town or county. If so, don't neglect to go to their meetings and hear what the members have to say. Is not that the most sensible course to follow? It will pay you tenfold, perhaps a hundredfold. These meetings are one place where you can usually get the unvarnished truth.

ECONOMIC PLANTS.—A subscriber in the far West asks me to give the culture and uses of chicory. It belongs into the same family with endive, and the two plants, when in bloom, look pretty much alike. Its culture is simple. When grown for its root, which is dried and used as a substitute for coffee, it can be cultivated somewhat like carrots. The leaves are sometimes blanched and furnish nice material for salad, especially when forced in winter. A simple plan of forcing them will be given in next issue.

It is my desire to investigate the subject

of "economic plants," and I think some of the readers of FARM AND FIRESIDE can be of material service to me in this respect. If you know of any plant cultivated extensively in your neighborhood for the production of oil, perfume or for medical and similar purposes, I would be under great obligation to you for being told of it, and especially for the addresses of people largely engaged in the cultivation of such plants. I know something about peppermint and about hops, but there are a host of other plants with which I am entirely unacquainted. And these are just the ones I would like to learn about.

MARKET GARDENS IN FRANCE.

In Paris and other large cities in France, manure is produced in the stables of the omnibus companies in such large quantities that it is sold at a very low rate, and the market gardeners pay enormous rents for land upon which to make their gardens. This manure is not used to fertilize their crops but as a source of heat. The culture is carried on upon a series of extended hot-beds. The vegetables forced are disposed of in the markets of more northern cities. The operations commence in the autumn previous, when the manure is collected and brought into proper condition for use. All the vegetables are forced, so as to be much earlier than they would be in the open ground. A bed of dung about sixteen inches deep is covered with six inches of rich soil, and frames with glazed sashes placed upon this. Quick-growing crops are those generally raised. Lettuce is raised in perfection; so are radishes. Cauliflowers are extensively grown, and asparagus is forced in large quantities. The manure used in these beds has lost little, if any, of its fertilizing qualities, and is sold to farmers to be used on their crops. The products of a majority of these gardens go to Berlin, Moscow and St. Petersburg, and even to England. Buyers come from these markets, make their purchases at the garden, cut and pack them for transportation, and send them off. High prices are paid, but only the first products are raised. Some gardeners devote their land exclusively to cucumbers and melons, to mushrooms, or some other profitable specialty in vegetables.—*American Agriculturist.*

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—Whittier.

ONE teaspoonful of ammonia to a teaspoonful of water will clean gold or silver jewelry; a few drops of clear aqua ammonia poured on the underside of diamonds will clean them immediately, making them very brilliant.—Ray Joyce.

I KNOW how hard money comes on the farm, sometimes. I have seen the time when I had to miss some copies of my paper at the beginning of the year for want of funds. You had better go without almost anything else than your agricultural paper.—T. B. Terry.

It takes a prodigious amount of vegetable matter to form a layer of coal, it being estimated that the present growth of the world would make a layer less than one eighth of an inch in thickness, and that it would take a million years of vegetable growths to form a coal bed ten feet in thickness.

ARTIFICIAL gems at the Paris exposition are said to have surpassed anything ever before shown, some of the specimens puzzling even dealers and experts. The artificial pearls were especially successful, no means being found to distinguish the genuine from the artificial, except the use of a file.

At the recent annual dinner of the famous New England Society, at Delmonico's, in New York, a bon mot was made by the Rev. Dr. Wayland, which brought down the house with roars of laughter. He said, amongst other bright things, that it seemed rather hard on old New England for her sons to sit here enjoying themselves in such a luxurious fashion, when even Plymouth Rock pants for three dollars, and moved that a collection be taken up to relieve the distress.

A PATENT has recently been granted for a process of separating buttermilk from butter, which consists in first melting the butter under sufficiently warm water by holding said butter in bulk below the surface thereof, next pouring the same to rise in a melted state through a wire mesh, whereby the buttermilk is separated from the butter, and then beating the pure butter which has risen to the surface into froth, and finally allowing the froth to settle, whereby it becomes non-granular and solid.—Baltimore American.

CONSUMPTION SORELY CURED.

TO THE EDITOR:—Please inform your readers that I have a positive remedy for Consumption. By its timely use thousands of hopeless cases have been permanently cured. I shall be glad to send two bottles of my remedy FREE to any of your readers who have consumption if they will send me their Express and P. O. Address. Resp'y T. A. SLOCUM, M. C., 181 Pearl St., N. Y.

A VERY simple apparatus for obtaining an electric spark is made by a German physicist, says the *Arkansas Traveler*. Around the center of a common lamp chimney is pasted a strip of tin foil, and another strip pasted from one end of the chimney to within a quarter of an inch of this ring. Then a piece of silk is wrapped around a brush, and the interior of the chimney is rubbed briskly. In the dark a bright, electric spark may be seen to pass from one piece of tin foil to the other each time the brush is withdrawn from the chimney. Many other experiments can be tried with this apparatus.

A MOTHER'S RESPONSIBILITY.

Unfortunately, not every mother thinks it necessary to teach polite manners to her children. Her boys do not take off their hats when they come into the presence of ladies; her girls interrupt rudely in conversations. It is a common occurrence in our street-cars to see an elderly gentleman give up his seat to some old person, while a six-year-old youngster spreads over room enough for two, and with his mother looking on apparently ignorant that she is rearing a son with the selfish manners of a cub. The behavior of her children is a pretty clear mirror of the mother's own nature. It is from her they learn courtesy and gallantry and chivalric respect to women. Lookers-on at the rude or bad behavior of the child cannot have a very flattering opinion of that child's home influences.

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Those who overtax the voice in singing or public speaking will find "BROWN'S BRONCHIAL TROCHES" exceedingly useful, enabling them to endure more than ordinary exertion with comparative ease, while they render articulation clear. For Throat Diseases and Coughs they are a simple yet effective remedy. Containing nothing injurious, they may be used as often as required, and will not disorder the stomach like cough syrups and balsams. For forty years they have been recommended by physicians, and widely used, being known all over the world as one of the few staple cough remedies. Sold only in boxes.

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1000 PRESENTS Gold Watches, Diamond Rings, Silk Dresses GIVEN AWAY

We have just given away 402 elegant presents to successful competitors in last Bible Hunt contest (names given in our February issue). We want more subscribers, and propose as follows: send us 2c. (stamp or silver), and receive our paper, LADIES' HOME JOURNAL, regularly for 4 months. To first person who answers this advertisement, and tells us correctly where the word RIVER first appears in the Holy Bible, we will give a handsome Gold Watch (see cut), ladies' or gent's size. To next one giving correct answer, we will give an expensive Silk Dress, warranted to fit if correct measurements are given. To third person answering correctly, we give a magnificent SOUTHERN DIAMOND RING. To fourth person, Silver Chain-link Watch; to next ten, Beautiful Gold Jeweled Gown; next 50, a Pair of Corsets; next 100, Handsome Foulard Tea-Gown; next 250, a reversible Fountain Pen (retail price \$1); next 500, a fine Toilet Set; next 750, Ladies' Complete Work-Box. This makes 1000 presents. But if we receive 500 more replies to this advertisement, containing 2c. for subscription, and a correct answer to Bible question, we will give each one, absolutely free, a beautiful Gold Ring, Pearl Shell Neckpiece, Bracelets, or some other article either jewelry or wearing-apparel. This is the grandest offer we ever made. We do as we agree. LADIES' HOME JOURNAL has been published seven years, and we defy any one to prove we ever made a promise we did not keep. This offer is good till April 27 only, as list of successful contestants will appear in April issue of paper. Write now. Send 2c., and tell where RIVER first appears in Holy Bible. Address Avon Publishing Company, Boston, Mass.

Smiles.

TIME'S REVENGE.

Years, years ago, when I was young,
I loved a fair and gentle maiden;
Her praises day and night I sung,
My heart with deepest passion laden;
But learning that she loved me not,
I did not drop a tear or quaver,
But bowed to my unhappy lot
And wooed another sweet enslaver.

How quickly time doth turn the scene
With wonders strange and changes plenty!
My pretty girl is just eighteen,
My first love's boy is four and twenty;
Her child loves mine. How merrily
I'll lead his hopes unto the slaughter!
His mother would not marry me,
And I'll not let him wed my daughter.

—Sunday Mercury.

A BETTER PULL.

"Do you expect a raise of salary on the first?" he asked, as they came down town together.

"I do," was the confident reply.

"So you did last year at this time, but didn't get it."

"I know it, but circumstances are different, now."

"Going to marry the old man's only daughter?"

"Better than that."

"Whew! You must have got an inside track."

"So I have."

"What is it?"

"Last year he had three men of us who knew how to mix beans, chicory and coffee together to make O. G. Java. The other two are dead."

"And you?"

"A rival concern has offered me an advance of \$5 per week. He must come up to it, or I go. His only daughter! She isn't shucks compared to 68 per cent adulteration."—*Detroit Free Press.*

NO ONE ELSE.

Managing editor enters a humorist's room. Humorist, shoving back his chair, says:

"I was just thinking what a great difference there is between humorists."

"Yes," the managing editor replies, "quite a difference."

"Now," the humorist continues, "Artemus Ward used to chuckle, yes, even laugh, over his own jokes. I am of a different temperament. I never laugh at my jokes."

"Neither does any one else," says the managing editor.—*Arkansas Traveler.*

A RARE KIND OF A GIRL.

"Miss Johnson, do you play the piano?"

"No, George."

"Do you embroider?"

"No, George."

"Do you decorate china?"

"No, George."

"Do you put your hair up in curl papers?"

"No, George."

"Miss Johnson, do you object to marrying me?"

"No, George."—*St. Paul Pioneer Press.*

MARRIAGE NOT A FAILURE.

"How is your darter, Nancy, gettin' 'long since she married an' moved out to Californy?" said the first Indiana man. "Is she doing well?"

"Doing well? Why, bless ye, she's gettin' 'long perfectly lovely. Her first husband died, leavin' her \$5,000 in cold cash, an' 'twarn't three months 'fore she tied on ter a consumptive worth \$10,000. Oh, but she's a rattler, that gal is!"

A MATTER OF TASTE.

"If there's anything I do just natchelly deesplse, it's one o' these nasty seegars," said an Arkansas woman of delicate sensibilities. "The smell of one of 'em will turn my stumlick quicker'n anything I know of, but you take a right good pipe, now, one that's been smoked a year or two till it's well seasoned, an' I tell ye it's pleasant and wholesome to smell; but I don't want no seegars smoked 'round me."—*Drake's Magazine.*

A GREAT SUFFERER.

The record of death, published in one of the religious newspapers, says of the departed brother: "For two years preceding his death he was a constant reader of the—. He was a great sufferer, but grace sustained him."

The *Congregationalist* exclaims:

"How sad that he did not take to the reading of some other newspaper in time!"

CONSUMPTION CURED.

An old physician, retired from practice, had placed in his hands by an East India missionary the formula of a simple vegetable remedy for the speedy and permanent cure of Consumption, Bronchitis, Catarrh, Asthma and all Throat and Lung Affections, also a positive and radical cure for Nervous Debility and all Nervous Complaints. Having tested its wonderful curative powers in thousands of cases, and desiring to relieve human suffering, I will send free of charge to all who wish it, this recipe in German, French or English, with full directions for preparing and using. Sent by mail, by addressing, with stamp, naming this paper, W. A. NOYES, 820 Powers' Block, Rochester, N. Y.

THE QUEEN OF THE HOUSEHOLD.

"Ha! come in, old man; I'm glad to see you. Come down into the kitchen and have a smoke. Wife's gone over to her mother's, and I'm all alone."

"But I hear the piano."

"Oh, the servant girl has company to-night, and we had to give up the parlor. That's the reason my wife went out. Come right down to the kitchen. I'm mighty glad you called."

MRS. HOBSON'S CHOICE.

Mrs. Hobson—"I wish I had something to read. Did you get only one Sunday paper?"

Mr. Hobson—"Yes, my dear, but it is in two parts."

"Well, let me have one while you are reading the other."

"Certainly, my love. Which half would you prefer, the political half or the base ball half?"

—*New York Weekly.*

A DREADFUL RUMOR.

A—"I hear that congress is to be done away with."

B—"Nonsense!"

A—"No nonsense about it. A reliable gentleman told me that hereafter congressmen would be obliged to pass an examination by a civil service commission, in English grammar and spelling, before they would be allowed to take their seats."—*Texas Siftings.*

SHE LOVED TO GROAN.

Aunt Mary—What a cold-hearted world this is! I was so sick all night, and not a soul in the house came to see what was the matter with me."

Ella—"That's not it at all, auntie; we all heard you groaning, and we hadn't the heart to interrupt you. We know how you enjoy a good groaning, you know."—*Boston Transcript.*

TOMMY'S MISAPPREHENSION.

Tommy (at dinner, the new minister being a guest)—"You are quite a singer, I believe?"

New Minister—"Why, no. What makes you think so?"

Tommy—"Mother says that you stick to your notes more closely than any man she ever heard before."—*Boston Herald.*

MATED MINDS.

"I can tell you one thing," said Mr. Flizzig, with emphasis, "when I marry, it won't be any 'higher education' girl. My wife won't know Latin!"

"No," said Edgely, looking at him attentively, "nor beans."

HIS TAILOR.

"Will you trust me, Fanny?" he cried.

"With all my heart, with all my soul, with all myself, Augustus," she whispered, nestling on his manly bosom.

"Would to heaven that you were my tailor," he murmured to himself, and took her tenderly in his arms.

NOT AN ENTIRE FAILURE

"Did you go to the seance last night?"

"Yes."

"Did the spirits materialize?"

"No; but the medium told some."

"Told some what?"

"Material lies."

HIS SHEFF DE OVER.

"What is your favorite Shakespearean play, Mrs. Lakeside?"

"Well, I dunno as I know. I think 'Dromio and Joliet' has some very fine passengers in it."—*Life.*

WILLING TO GIVE IT A TRIAL.

Canvasser—"I have here a work that goes off like hot cakes."

Lady of the house—"Please let me see it go off."—*Munsey's Weekly.*

LITTLE BITS.

The sun-dog is probably a setter.

It is a strange thing that the bald-headed man generally has hair on the bratu.

In this weather the fisherman may have to cut through the ice to get a bite; but he isn't obliged to do it in order to get a "nlp."

When a man is young he thinks to reform the world, but when he gets older he is quite satisfied if he is able to reform himself.—*Atchison Globe.*

Flossie (looking up from her history)—"Well, what I don't understand about Columbus discovering America is, how he knew it was America when he'd never seen it before."

Is the holy Russian empire petering out? First she sent us Grand Duke Alexis, then Tolstol, and now the influenza. The nature of the next arrival is a matter for anxious speculation.

A little girl who made frequent use of the word, "guess," was corrected for it, and told to say "presume" instead. One day, telling a caller how her mother made her aprons, she said: "Mamma don't cut my dresses and aprons by a patteru. She just looks at me and presumes!"

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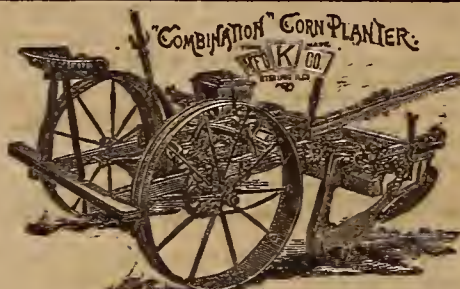
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A CHILD CAN USE THEM.

Selections.

MAMMA'S GOOD-NIGHT.

Mamma loosens the baby's frock,
And takes off each little shoe and sock;
She softly brushes the golden hair,
And pats the shoulders, dimpled and bare;
She puts on the night-gown, white and long,
Humming the while an evening song:
"Daytime is over;
Playtime is closing;
Even the clover
Is nodding and dozing,
Baby's bed shall be soft and white,
Dear little boy, good-night, good-night!"

Mamma kisses the little, pink feet,
And the tiny hands so dimpled and sweet;
The rosy cheeks and the forehead white,
And the lips that prattle from morn till night;
With a last fond kiss for the golden crown,
Gently and softly she lays him down,
And in the hush that the twilight brings
She stands by her darling's bed and sings:
"O'er the billow
Soft winds are sighing;
Around baby's pillow
Bright dreams are flying.
Here comes a pretty one, sure to alight
Dear little boy, good-night, good-night!"

—Eudora G. Bumstead.

THE ART OF LEAVING.

The art of leaving is less understood by women than by men. The habits of business, the recognized fact that to a business man time is money; the throng and press and exactness of business life, all tend to make men who live in cities the best possible exemplars of the fine art of leaving quickly and neatly. A business man's social call is usually a model of good manners in this respect. When he has said what he has to say, and listened to what there is to hear, he takes his hat, says "good-evening," and is out of your presence without giving any time or chance for the too often tedious and embarrassing commonplaces of mutual invitations and promises to call again, which seem to be a kind of social formula with women. In striking contrast with this neat and skillful method of cutting short the parting word of an interview or call, is the too common social practice of visitors, who, commencing to leave, seem temporarily to abandon their purpose and then linger as though it was a kind of compliment to the visiting party to appear loath to part.

Who does not dread the visitor who starts, then thinks of something else to say, rises, and then thinks of another subject of conversation; nearly reaching the door, and most probably holding it open, is aroused to a degree of mental brilliancy that threatens his health and that of his host or hostess by long detaining of both in a cold draught while he discourses? What a tax on the patience and politeness of the listener, who strives, by assenting instantly to every proposition, to end the interview and break the restraining bond of polite attention!—*Philadelphia Record.*

ARISTOCRATIC CARRIAGE.

Women who wish to preserve the slimness and contour of their figures must begin by learning to stand well, says *Dress*. That is explained to mean the throwing forward and upward of the chest, flattening of the back, with the shoulder-blades held in their proper places, and the definite curving in the small of the back, thus throwing the whole weight of the body upon the hips. No other women hold themselves so well as the aristocratic Englishwomen. Much of their beauty lies in their proud carriage, the delicate cretness of their figures, and the fine poise of their heads.

The same aristocratic carriage is within reach of any American girl who takes the pains to have it; it is only the question of a few years of external vigilance, never relaxing her watchfulness over herself; and, sitting or standing, always preserving her erectness and poise, the result being that at the end of that time it has become second nature to her, and she never afterward loses it. This, in a great measure, preserves the figure, because it keeps the muscles firm and well strung, and prevents the sinking down of the flesh around the waist and hips, so common in women over thirty, and which is perfectly easy to escape. Another thing to avoid is a bad habit of going upstairs, which most women do, bent forward with the chest contracted, which, as well as an indolent, slouchy manner of walking, is injurious to the heart and lungs.

Recent Publications.

CATALOGUES RECEIVED.

Kansas Seed House, F. Bartheldes & Co., Lawrence, Kan.
Wilson's Seed Catalogue, Samuel Wilson, Mechanicsville, Pa.
Vegetable, flower and field seeds, trees, plants and vines, Frank Ford & Son, Ravenna, Ohio.
Seed Annual, D. M. Ferry & Co., Detroit, Mich.
Cole's Garden Annual, Cole's Seed Store, Pella, Iowa.
Seeds, plants, trees, etc., The Storrs & Harrison Co., Palmsville, Ohio.
Garden Guide, R. H. Shumway, Rockford, Ill.
Northern grown seeds, Northrup, Braslan & Goodwin Co., Minneapolis, Minn.
Small fruits, Slaymaker & Sons, Dover, Del.
Vick's Floral Guide, James Vick, Rochester, N. Y.
Seed Annual, J. D. Vandercok & Co., Austin, Ill.
Calendar catalogue of pumps and hay tools, F. E. Myers & Bro., Ashland, Ohio.
Agricultural Implements, Grand Rapids Mfg. Co., Grand Rapids, Mich.
Patent flax roofing, H. Reinstedler, St. Louis, Mo.
Small Fruit Manual, B. F. Smith, Lawrence, Kan.
The Sorghum Hand Book, a valuable treatise on the cultivation and manufacture of sorghum. Sent free. Blymyer Iron Works, Cincinnati, Ohio.
Floral Gems of the Spring of 1890, McGregor Bros., Springfield, Ohio.

WATER CARRIER from well or spring. Cheap and durable. Address R. C. Dugan, Millersburg, O.

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Gleanings.

CATCHING COLD.

BETWEEN the shoulders and across the back of the neck are the points where cold seems to strike. The nerves at those points seem particularly sensitive. To "never sit with the back of your neck close to a window" is a maxim that has to be repeated every year; and all the year around it holds good. Face the cold, and brace up the shivering spine with one or two layers of anything, even paper, between the shoulders, that will give the feeling of warmth and retain the heat that is so rapidly lost in some states of the weather. Cheerfulness and determination, however, when you have to breast a stormy day, help to insure people against catching cold.

HYGIENE FOR THE EYES.

Dr. Lincoln, of Boston, in the Annals of Hygiene, formulates the following rules for the cure of the eyes for school work:

1. A comfortable temperature, and especially let the feet be warm and dry.
2. Good ventilation.
3. Clothing at the neck loose; the same as regards the rest of the body.
4. Posture erect; never read lying down or stooping.
5. Little study before breakfast or directly after a hearty meal; none at all at twilight or late at night.
6. Great caution about study after recovery from fevers.
7. Light abundant but not dazzling.
8. Sun not shining on desk or on objects in front of the scholar.
9. Light coming from the left hand, or left and rear, under some circumstances from in front.
10. The book held at right angles to the line of sight, or nearly so.
11. Frequently rest by looking up.
12. Distance of book from the eye about fifteen inches.

DIPHTHERIA'S NATURAL REMEDY.

It is said that nature has her own remedy for every ill to which flesh is heir. Some of her remedies have not yet been discovered and some that have been found out have not become generally known. Medical science has long sought for a sovereign remedy for the scourge of childhood, diphtheria, yet the colored people of Louisiana, and perhaps of other localities in the South, have for years known and used a cure which is remarkable for its simplicity. It is nothing more or less than the pure juice of the pineapple.

"The remedy is not mine," said a gentleman when interviewed by a Chicago Tribune reporter; "it has been used by Negroes in the swamps down South for years. One of my children was down with diphtheria and was in a critical condition. An old colored man who heard of the case asked if we had tried pineapple juice. We tried it, and the child got well. I have known it tried in hundreds of cases. I have told my friends about it whenever I heard of a case, and never knew it to fail. You get a ripe pineapple, squeeze out the juice and let the patient swallow it. The juice is of so corrosive a nature that it will cut out the diphtheritic mucus, and if you will take the fruit before it is ripe and give the juice to a person whose throat is well, it makes the mucous membrane of his throat sore. Among those who have tried the cure on my recommendation I may mention Francis J. Kennett, the board of trade man, whose children were all down with diphtheria, and were cured by this remedy." Mr. Kennett confirmed the statement.

SHOE STYLES.

It is a mistaken idea that our grandmothers wore shoes with lower and broader heels more generally than do their granddaughters of to-day. This can be proven by an examination of any collection of old-time shoes. High heels, unless carried to extremes, do not injure the health of women, while they are a great aid in the effort of learning to walk gracefully. There is no occasion to blame the average high-heeled shoe of the present time for creating nine tenths of the ills that women suffer from. The cause must be sought for elsewhere.

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- 1 Design Poppies, 5x9 inches.
- 1 Design Snowballs, 6x9 inches.
- 2 Designs Wild Roses.
- 1 Cluster Rosebuds and leaves.
- 1 Horse's Head, 4 inches high.
- 1 Half Wreath Bachelor's Buttons, 6½ inches across.
- 1 Design Cherries, with buds and leaves, 6 inches high.
- 1 Vine for Silk Embroidery, 21-2 inches wide.
- 1 Braiding Design with Corner, 3½ inches wide, for blanket, etc.
- 1 Design Swan, 4½ in. high.
- 1 Outline design, Sun-ble.
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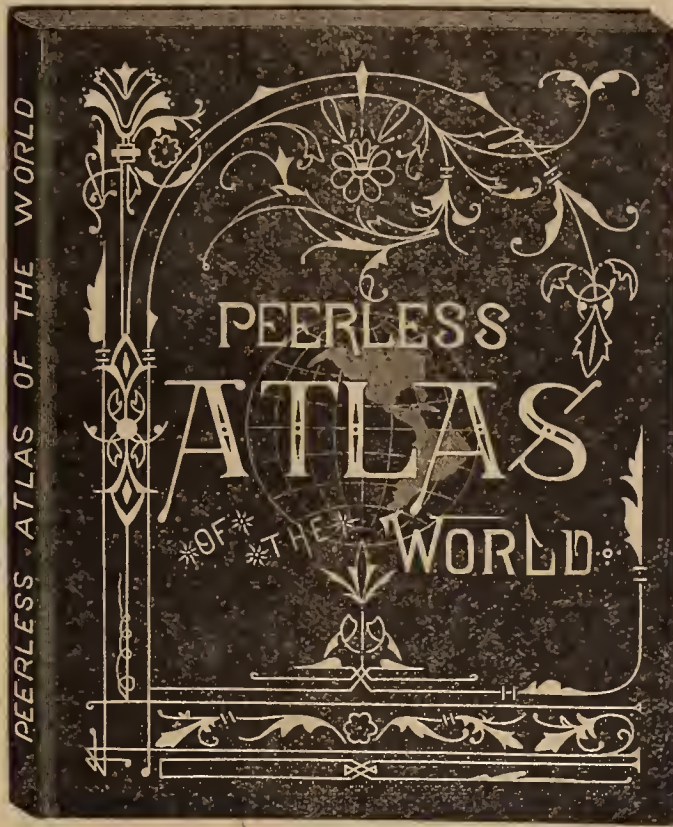
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I got your picture, "Christ Before Pilate," and I would not take \$10.00 for it.
JOHN KIRKPATRICK.

DESCRIPTION OF THE PAINTING.

The scene chosen for the painting is the "Judgment Hall" in the palace of Pilate, and the hour "early in the morning." Around the Governor the priests are gathered, and the high-priest, Caiaphas, is accusing Christ and demanding his death. The proud and furious bigot is alive with excitement. There is a majesty about his pose, the consciousness of power in his look and gesture, and something of dignity in the superb audacity with which he draws Pilate's attention to the execrations of the mob (who are crying out "Crucify him!"), as expressive of the national will which the Governor is bound to respect, at the same time insinuating that to let this man go will be treason to Caesar, as well as a violation of the Jewish law which demands the prisoner's death for "making himself the Son of God." Pilate is yielding to the clamor, while his conscience, aided by his wife's message, warning him not to condemn that righteous man, is protesting in tones which make him tremble.

THE CENTRAL FIGURE.

And the most impressive of all, is Christ himself, clad in white, with flowing hair and bound wrists. He stands alone in the simple majesty of his own personality, without sign or symbol, save his individual greatness. A heavenly submission is on his face.

OTHER LEADING FIGURES

Are represented by the proud and confident Pharisee, the haughty and contemptuous Scribe, the Roman soldier, of splendid physique; and the ruffian leaders of the mob, as they join in the cruel cry, "Crucify him!" To one side is one of the daughters of Jerusalem, holding up her child to see him whose blessing has forever consecrated childhood. In the outer court the multitude is waiting for Pilate's decision.

BENTONVILLE, IND., Dec. 15, 1889.
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	CHICAGO.	NEW YORK	N. ORLEANS
BUTTER.			
Fancy Cream'y...	23 @ 26	26 @ 23	27 @ 29
" Dairy.....	17 @ 21	17 @ 20	18 @ 20
Common.....	7 @ 8	7 @ 10	
GRAIN.			
Wheat No. 2 spr'g	75 3/4	85 3/4 @ 86	
" No. 2 w't'r	75 3/4	86 @ 87	
Corn, ".....	25 3/4 @ 25 3/8	35 @ 35	36 @ 37
Oats, ".....	20 @ 22		31 @ 35
LIVE STOCK.			
Cattle, Extra.....	5 00 @ 5 20	4 85	
" Shippers.....	2 85 @ 4 85	3 85 @ 4 75	3 00 @ 3 50
" Stockers.....	2 00 @ 3 00		
Hogs, Heavy.....	3 70 @ 3 90	3 80 @ 4 10	4 00 @ 4 50
" Light.....	3 60 @ 3 85		
Sheep, com. to good	4 50 @ 6 00	4 00 @ 6 25	2 00 @ 3 00
" Lambs.....	5 25 @ 6 75	6 00 @ 7 00	
PROVISIONS.			
Lard.....	5 87	6 25	5 37 @ 5 50
Mess Pork.....	9 85	11 00 @ 11 50	10 75 @ 11 00
SEEDS.			
Flax, No. 1.....	1 35		
Timothy.....	1 15 @ 1 30	1 40 @ 1 65	
Clover.....	3 00 @ 3 50	3 25 @ 3 75	
WOOL.			
Fine, Ohio & Pa.			
" Western.....	25 @ 30	30 @ 31	
" Unwashed.....	16 @ 22		
Medium, Ohio & Pa.			
" Western.....	30 @ 31		
" Unwashed.....	25 @ 26		
Combing & Delaine			
Coarse & Black.....	23 @ 24	36 @ 41	

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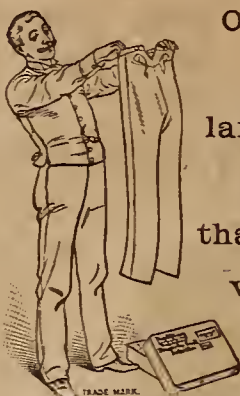
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EXPRESS PREPAID. WINS 1ST PRIZES IN U. S. & FOREIGN COUNTRIES. 2 WEIGHED 2806 LBS. SEND FOR DESCRIPTION & PRICE OF THESE FAMOUS HOGS, ALSO FOWLS. L. B. SILVER CO. CLEVELAND, O.
(This Company sold 973 head for breeding purposes in 1887. Send for facts and mention this paper.)

NEW FIELD CORN
Orange County Field.
This new field corn has distinguished itself from any other variety in its enormous yield, yielding a third more than any other known variety. For particulars send for catalogue of 1890.
W. H. CORNISH & CO.,
NEWBURGH, N. Y.
Store, 68 & 70 Broadway.

Always mention this paper when answering advertisements, as advertisers often have different articles advertised in several papers.

Our business
showed a
larger increase
in 1889,
than for 18 previous years.



WHY?

HERE'S A FEW REASONS:

- (1) Very popular patterns of cloth. Styles shown only by us.
- (2) Improved system of cutting, customer picking out his own shape from 10 examples, in addition to sending measures.
- (3) 52 patterns, cut from cloth itself, to select from.
- (4) Every garment guaranteed in all points—money promptly refunded for any cause.
- (5) Entire outfit as shown above, sent FREE upon application, post-paid.
- (6) Increase of our branch stores as far South as New Orleans, and West to Chicago, successfully competing for fine city trade.
- (7) Thousands of people telling each other of our honorable treatment of customers, and excellent wear and fit of our clothing.

The promise for 1890 is very bright. We shall strive hard to deserve it.

PLYMOUTH ROCK PANTS CO.

Address all mail to Headquarters, 11 to 17 Eliot St. Annex, 695 Washington St., and 18 Summer St., Boston, Mass.

Branches: 285 Broadway, New York; 943 Penn. Ave., Washington, D.C.; 72 Adams St., Chicago, Ill.; 914 Main St., Richmond, Va.; 225 E. Baltimore St., Baltimore, Md.; 110 Canal St., New Orleans, La.; 104 Montgomery St., Montgomery, Ala.; 39 Whitehall St., Atlanta, Ga.; Burnside Bldg., Worcester, Mass.; Hotel Gilmore, Springfield, Mass.; 195 Westminster St., Providence, R.I.; Old Register Bldg., New Haven, Conn.; 106 No. Main St., Concord, N.H.; 170 River St., Troy, N.Y.

GRIND YOUR OWN
Bone, Meal,
Oyster Shells,
Graham Flour & Corn in the
\$5 HAND MILL (E. Wilson's Patent).
100 per cent. more made
in keeping poultry. Also POWER MILLS and
FARM FEED MILLS. Circulars and testimonials
sent on application. WILSON BROS., Easton, Pa.

ENTERPRISE MEAT CHOPPERS,
BEST IN THE WORLD.GUARANTEED TO CHOP,
NOT GRIND THE MEAT.

FOR CHOPPING
Sausage Meat, Mince
Meat, Hamburg Steaks
for Dyspeptics, Beef
Tea for Invalids, &c.

Farm and Fireside says:
"It is the only Meat Chopper we ever saw that we would give horse room. It has proven such a very useful machine that we want our readers to enjoy its benefits with us."



No 10 Chops 2 lbs. per minute
Price, \$3.00.
12 Chops 2 lbs. per minute
Price, \$2.50.
22 Chops 3 lbs. per minute
Price, \$4.00.
32 Chops 4 lbs. per minute
Price, \$6.00.

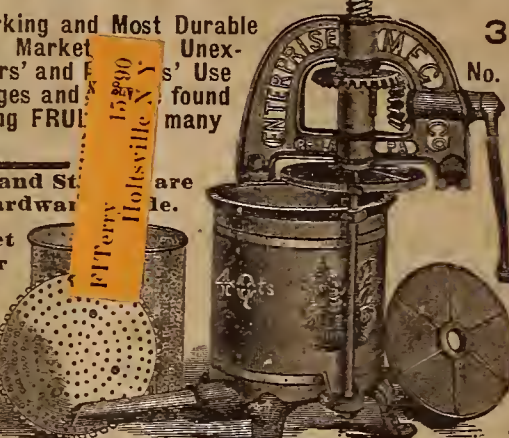
American Agriculturist says:
"We have given this Meat Chopper a thorough trial with most satisfactory results. They excel anything of the kind made in either hemisphere."

ENTERPRISE SAUSAGE STUFFER and LARD PRESS.

The Easiest Working and Most Durable Machines in the Market. Unexcelled for Butchers' and in Stuffing Sausages and useful for Pressing FRUIT and other purposes.

Our Choppers and Stuffers are Sold by the Hardware Dealer.

If you cannot get a CHOPPER or STUFFER from your Hardware Dealer, send money to us and we will ship by first fast train.



3 SIZES.

No. 15—2 qts. \$3.00
25—4 " 5.00
35—8 " 6.00

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Catalogue, Free

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Mfg Co.,
Philadelphia.

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FENCE PRICES REDUCED
Heavy Netting. Best made.
(STEEL WIRE.) Catalogue FREE. Write
SEDGWICK BROS., RICHMOND, IND.
EDWARD SUTTON, Eastern Agent,
300 MARKET STREET, PHILADELPHIA, PA.

SPRAYING FRUIT TREES
Is an absolute necessity. Our Perfection Outfit stirs the liquid automatically, and will spray 100 trees per hour. Cheapest and Best. Also Outfits for Horse Power. Circulars free. FIELD FORCE PUMP CO. Lockport, N.Y.

SPECIAL OFFER TO OUR SUBSCRIBERS.
Two Papers for About the Price of One

The regular subscription price of the Atlanta Constitution is \$1.00, and of the Farm and Fireside 50 cents.
For a short time only we offer

Both Papers for Only \$1.10

Send your Subscription at once, with enclosure of \$1.10, and Receive Both Papers One Year.
Or mention Farm and Fireside and address The Constitution, Atlanta, Ga.,
and receive a sample copy of that paper free.

THE ATLANTA CONSTITUTION

The Great Southern Weekly, has the largest circulation of any weekly newspaper in the United States. Its books and press room always open to the public and inspection is invited. Circulation every week, 140,000. Every northerner ought to read it. It is a representative newspaper of the South, and as such should go into the home of every person in the North who wants to be posted on the affairs of the South.

The Weekly Constitution wants an agent in every community in the country, and it offers greater inducements to agents than any other newspaper in the United States. Send for an agent's outfit and you can make money for yourself. It is a very easy paper to place in the hands of the people of the North, who are ready to subscribe for a representative Southern newspaper.

The Weekly Constitution is a twelve-page paper, and its news and special service is not excelled by any paper published. Its agricultural features are as complete as money and ability can make them, and its corps of special writers are taken from the ablest talent in the country. Joel Chandler Harris, "Uncle Remus," is regularly engaged on the Constitution, and his inimitable writings appear every number. Among its other special contributors are Bill Arp, the famous southern humorist philosopher, Betsy Hamilton, the perfect cracker dialect writer in the South, W. P. Reed, Dr. W. L. Jones, who conducts our farmer's department, and whose name is a household word among the farmers of the South. Dr. T. DeWitt Talmage, by special arrangement, furnishes the Constitution every week with his celebrated Sunday sermons. This arrangement has just been renewed for the present year. This is not all. There are hundreds of regular correspondents throughout the country who contribute regularly to the columns of the Constitution, and no expense is spared to obtain the best talent that the field of journalism affords. The people of the North will find in the Constitution a representative southern newspaper.

Remember that it only costs you \$1.10 for the Weekly Constitution and the Farm and Fireside.
This unprecedented offer is limited, therefore send in your subscription at once. If you are already a subscriber, you can have your subscription advanced one year by accepting the above offer.

Subscriptions for the two papers should be addressed to the publishers of this paper as follows:

FARM AND FIRESIDE, Philadelphia, Pa., or Springfield, Ohio

For sample copies of THE CONSTITUTION, or an agency for that paper, mention FARM AND FIRESIDE and write THE CONSTITUTION, Atlanta, Ga. There's money in it.



20 PAGES.

EASTERN EDITION.

VOL. XIII. NO. 11.

PHILADELPHIA, PA., and SPRINGFIELD, OHIO, MARCH 1, 1890.

TERMS (30 CENTS A YEAR.
24 NUMBERS.)

The Circulation of FARM AND FIRESIDE
this issue is

251,200 COPIES.

The Average Circulation for the 24 Issues of
the year 1889, was

240,650 COPIES EACH ISSUE.

To accommodate advertisers, two editions
are printed. The Eastern edition being
100,500 copies, the Western edition
being 150,700 copies this issue.

Current Comment.

TO LEARN what effect the single tax would have upon his interest, a farmer has only to imagine how much his farm would be worth if every vestige of improvement—buildings, fences, clearing, drainage and cultivation were swept away, and the land reduced to the condition of the uncultivated land of his neighborhood. Let him suppose that every acre of his land was fallow and every improvement gone. What, then, would be the value of his farm? How much would it sell for in that condition? Having determined this, the farmer will know on what basis of value his land will be taxed. Suppose the tax rate rises as high as 7 per cent—which is high enough, for it is not likely to be worth by the year more than 7 per cent of its selling value—and the farmer can then tell how high, at the utmost, his single tax will be. Having done that, let him calculate how much he now pays for taxes on his farm, how much on personal property, how much in tariff taxes on the foreign goods he buys, how much in higher prices for protected American goods, and how much for other taxes that may occur to him, such as work on the highway, and so on. Then let him compare these two sums, the amount of his single tax and the amount he now pays in direct and indirect taxes. By this exercise in simple arithmetic he can satisfy himself as to whether his taxes will be lower or higher under the single tax than now. But he must not stop here. Under the single tax it will not pay to keep land out of use. There will be no tax on what is produced from the land. Whether a man is industrious or lazy, provident or improvident, whether he uses his land or lets it lie idle, his taxes will be just as much, provided he appropriates to himself the same value in land. Therefore, no one can afford to own land which he does not use, and all unused land will be free. This will reduce the selling value of all land, and the farmer's tax will fall just as the selling value of his land falls. Nor is this all. Since there will be no tariff on foreign goods, trade will be free, and the products of our farms will have the world for a market. Nor yet is this all. Unused coal lands will be thrown open to the miner, and fuel will be cheaper, factories, no longer protected in their monopoly profits by a tariff, will have to sell to the farmer as cheaply as he can buy elsewhere, and the mechanic and laborer, no longer engaged in fierce competition for an opportunity to work, and no longer stinting himself and his family to make his wages meet his bills, will buy more farm produce, and thus make a new market for the farmer. And beyond all this, for the farm hand and the farmer's sons there will be land in plenty; not on western prairies alone, but in their native counties, to be had for the taking, without price or rent or tax.

The above is taken from the *Standard*, Henry George's paper. It is given as a fair specimen of the arguments used by single tax advocates when they talk to farmers on the subject. It is a vain endeavor to convince the farmers that they will have less taxes to pay when they pay all than when they pay part only. They

might as well try to prove that the whole is less than a part.

Their arguments are self-contradictory. Under a system of tax on land alone, one of two things must result: Either the users of land must pay all the taxes, or the users of the products of land must pay taxes indirectly through the increased prices of those products. Taxes on land practically increase the cost of its products. If the consumers pay this increase, then they pay indirect taxes. If the users of the land pay all the taxes, then they cannot possibly pay less than they do now, and the absurdity of the appeal to the farmers is plain. If the consumers of farm products help pay the taxes through increased prices, then the claim that single tax does away with indirect taxation falls to the ground. Either one claim or the other is false.

Then, again, notice the absurd claim that the farmer's tax will fall just as the selling price of his land falls. A given amount of taxes must be raised for the support of the government; if the value of the land falls, the rate of taxation must increase in order to raise that amount, and the farmer's tax will not fall, but will remain the same. The extract given is a fair sample of what is being scattered broadcast over the land by the advocates of single tax theories. Let the farmer examine the arguments, and he will see their inconsistencies and absurdities.

IN a recent number of the *Country Gentleman*, President W. I. Chamberlain, of the Iowa Agricultural College, has an interesting article under the title, "Nature's original packages." By this expression he means those farm products which are ready for the consumer or user when they leave the farm, such as fresh fruits, vegetables, poultry, colts, etc. This class of products he compares with another class that includes articles which leave the farm unfinished, or subject to manufacture and preparation before they reach their final destination. An example of the latter class is wheat, passing on its way from producer to consumer through the elevator, mill and bakery. The writer points out that on farm products of this class there is "a great gulf fixed" between producer and consumer, in prices, which is widening and deepening, while farm products that reach the consumer in "nature's original packages" bring fair prices, with a reasonable margin between producer and consumer. The "unfinished farm products" have gone down in price to the farmer, but not to the consumer. In grain, beef cattle, hogs and the like, there is now an immense margin of profit between producer and consumer. The writer names, as the chief causes of this widening gulf, the crime of adulteration and the exorbitant profits of manufacture under profit. They are then among the main causes of the prevailing agricultural depression.

As a striking example of manufacture under profit, he takes oatmeal. At the store it retails for fifteen cents per two-pound packages. At the elevator the oats bring fifteen cents per bushel of thirty-two pounds. That is, the farmer can buy two pounds of oatmeal with a bushel of

oats. This is possible, because the patent laws make a patent an absolutely unrestricted monopoly for seventeen years. The oatmeal millers, having a patent law monopoly, are joined together in a combination to control production and prices. Another example is the best roller-process flour made from 60-cent wheat and retailing at \$6 per barrel. Ten bushels of wheat buy a barrel of this fine flour. Formerly, five bushels of wheat paid for a barrel of flour. The patents on milling machinery increased the margin between producer and consumer.

The writer of this interesting article thinks that the expression in the title, "Nature's original packages," suggests a remedy. Farmers should turn their attention more to the raising of articles that, from their nature, cannot be adulterated, cornered, or subjected to the exorbitant profits of manufacture under patent.

LESS than ten per cent of the receipts of live cattle at the Chicago yards, says the *Breeder's Gazette*, would grade "good to choice." Here is a text for a sermon six columns long on the advantages of raising well-bred cattle instead of "scrubs." If people will raise three-cent cattle instead of five-cent cattle, they have no license to pick at the Big Four or anybody else when they only get three cents when they come to market.

There never was a better time than during the present period of low prices of cattle for the farmer to get a start in well-bred stock. Let the scrubs go for what they will bring. The scrubs must go if you wish to stop losing your labor and money in the business. Good, pure-bred stock can now be purchased for less than their actual value. By the time your herd is improved and ready for market, prices will almost certainly be better than they are now.

Experienced cattle growers are of the opinion that such low prices as cattle now bring cannot long continue. A few years ago, when their business was prosperous, thousands rushed into it. A host of cattle kings appeared on the western ranches. The result was overproduction and a decline in prices. When the prices of cattle fell, they were just as anxious to get out of the business as they had been to get in. They were ready to make any sacrifices to get out. Thousands of cattle not ready for market were thrown on the market, and with the result of demoralizing it. Raising three-cent cattle is a losing business, and the grower is soon forced to quit it. Then will come a time when the ever-growing demand for beef cattle will exceed the supply, and prices will go up with a bound. The beef cattle industry is one that requires much forethought. The grower must study the probabilities of the future when his young stock is ready for the market. The chances now are in favor of better prices.

AT the request of the secretary of the National Grange, we publish the following, which fully explains itself:

The committee appointed by the national grange to present to congress the wishes of our members in regard to national legislation, have been in session for several days, and have

prepared and submitted papers for their consideration. There seems to be no question in the minds of members as to the fact of agricultural depression. It is a recognized truth; but there are differences of opinion as to the causes of such depression and the remedy therefor. In order to obtain all the light possible upon the matter, we ask men who are directly connected with the agricultural interests to send us a brief and well-digested expression of their opinions as to the causes and the remedy for the unsatisfactory condition of the agricultural classes in many portions of our country. Do not indulge in glittering generalities, or search for what might seem to be a good point for your political party, but give us the specific cause or causes and the remedy. Please write as soon as you have considered the matter, and direct all letters upon this subject to Legislative Committee of National Grange, 514 F street, Washington, D. C.

IT is hard to be compelled to bear the taunts of those who are continually throwing the "skim-milk" characteristics of the Holsteins into their owners' faces, but as long as these despised cows produce over ten per cent more butter and over one hundred per cent more milk than the Jerseys or Guernseys, their breeders will probably continue in their foolish ways, and stick to the Holstein—Dudley Miller.

The above contains an admission on the part of the writer which weakens his defense. If Holsteins give one hundred per cent more milk than Jerseys and make only ten per cent more butter, then the charge that they are a skim-milk breed remains unanswered.

There will always be disputes among breeders about the merits of their favorite breeds, but the country is large enough, and has a place for every good breed, and the practical man will select without prejudice the one that suits his purpose. The question with him is not the greatest quantity of milk, butter or beef, but the greatest profit.

AN Indiana subscriber writes us that there is in his state a non-partisan organization known as the Farmers' Mutual Benefit Association. The organization has state, county and township assemblies. Its object is to help the members buy their farm machinery, etc., direct from the manufacturers at wholesale prices, and also to buy their minor supplies from merchants at a contracted per cent advance over the wholesale prices.

Farmers are forming too many different organizations with the same objects in view. What can they accomplish in this one which they could not accomplish in the Alliance or Grange? The official machinery and necessary expenses of conducting the organizations are needlessly multiplied. Union of organizations is the next thing in order.

NEARLY everything in the line of plants and trees, and garden, field and flower seeds, is kept by the seedsmen and nurserymen whose advertisements appear in our columns. If you need anything of the kind, do not fail to send for their catalogues. They will cost you only a postal card apiece. Many of these catalogues contain useful information about the culture of vegetables, fruits and flowers. When you send for a catalogue, please mention where you read about it. Publishers and advertisers will both appreciate this.

FARM AND FIRESIDE.

ISSUED 1st AND 15th OF EACH MONTH BY
MAST, CROWELL & KIRKPATRICK.

THIS PAPER HAS BEEN ENTERED AT THE POST-OFFICE
AS SECOND-CLASS MAIL MATTER.

TERMS OF SUBSCRIPTION:

One Year, - (24 Numbers), - 50 Cents.
Six Months, - (12 Numbers), - 30 Cents.

The above rates include the payment of postage by us.
Subscriptions can commence any time during the year.
Send for Premium List and see premiums
offered for obtaining new subscribers.

Payment, when sent by mail, should be made in
Express or Postal Money Orders, Bank-checks or
Drafts. WHEN NEITHER OF THESE CAN BE PROCURED,
send the money in a registered letter. All post-
masters are required to register letters whenever re-
quested to do so. Do not send checks on banks in
small towns.

Silver, when sent through the mail, should be care-
fully wrapped in cloth or strong paper, so as not to
wear a hole through the envelope and get lost.
Postage stamps will be received in payment for sub-
scriptions in sums less than one dollar.

The date on the "yellow label" shows the time to
which each subscriber has paid.
When money is received the date will be changed,
which will answer for a receipt.

Discontinuances. Remember that the publishers
must be notified by letter when a subscriber wishes
the paper stopped, and all arrearages must be paid.
Do not fail to give your post-office address.

When renewing your subscription, do not fail to
say it is a renewal. If all of our subscribers
will do this, a great deal of trouble will be avoided.
Also, give your name and initials just as now on the
yellow address label; don't change it to some other mem-
ber of the family; if the paper is now coming in your
wife's name, sign her name, just as it is on label, to your
letter of renewal. Always give your post-office address.

We have an office at 927 Chestnut Street, Philadel-
phia, Pa., also at Springfield, Ohio. Send your
letters to the office nearest to you and address

FARM AND FIRESIDE,
Philadelphia, Pa., or Springfield, Ohio.

The Advertisers in this Paper.

We believe that all the advertisements in this paper
are from reliable firms or business men, and do not
intentionally or knowingly insert advertisements
from any but reliable parties; if subscribers find any
of them to be otherwise we should be glad to know it.
Always mention this paper when answering adver-
tisements, as advertisers often have different things
advertised in several papers.

Our Farm.

AGRICULTURAL CHEMISTRY

From the Standpoint of the Practical Farmer.

BY JOSEPH (TUSCO GREINER).

No. 28.

SOURCES OF PHOSPHORIC ACID.—In my
last I mentioned that there is an
almost unlimited supply of phos-
phate rock in South Carolina and
elsewhere. The latest reports
from Florida assure us that the
mines there found, and soon to be opened,
may also be considered inexhaustible, and
perhaps even easier worked than those in
other parts of the South. At the same
time the Florida phosphates are claimed
to be of a higher grade than the others,
and to contain not only phosphoric acid,
but also the nitrogen which was in the
bones originally. In short, it would seem
that the United States are so abundantly
supplied with this most important of all
plant foods, and for so long a period, that
we may be relieved of all anxiety for the
future concerning this material. With
all these mines in full working order, and
so long as they do not happen to fall into
the hands of heartless corporations who
will run them on the same principle as
the coal mines are being worked, there is
every reason to believe that prices of this
plant food will have a downward rather
than an upward tendency.

GUANO AND APATITE, ETC.—The phos-
phatic guanos imported from some of the
islands in South America, and supposed
to be the droppings of sea fowls, with
most of the nitrogen washed out by rain,
contain from 15 to 40 per cent of phos-
phoric acid, and in some cases also more
or less nitrogen and potash. Usually they
are treated with sulphuric acid, and thus
changed into superphosphate. But with
the abundant supply we have in our own
country, I fail to see why it should be
necessary for us to look to South America
or any other country for phosphoric acid.
The same is true of apatite, which is a
phosphate rock of supposed purely
mineral origin, found in Canada. If treated
with sulphuric acid, and thus rendered
soluble, apatite is probably as useful as
any other form of soluble phosphoric acid;
but the raw material is usually considered
of less value than the South Carolina rock.
It is not used in this country to any great
extent.

BASIC SLAG.—I have repeatedly called
attention to a waste or by-product of the
German and English iron industry,
known as Thomas' or basic slag, or phos-
phate meal. I had heard good reports
about it at the horticultural meetings in
New Jersey, and this year I also heard
Prof Caldwell, of the Cornell University,

speak favorably of it at the recent meet-
ing of the Western New York Horticul-
tural Society, at Rochester, N. Y. It
contains from 20 to 30 per cent of phos-
phoric acid, which, although not exactly
soluble, is yet in such fine state of division
and so subject to chemical changes, that
plants seem to be able to make ready use
of it. A series of experiments with it
was made last season in Germany by Prof.
Wagner. It was thought that two kilo-
grams of phosphoric acid in Thomas' slag
produced effects equal to one kilogram of
phosphoric acid soluble in water. If this
is the usual effect, Thomas' slag is much
the cheaper, since the two kilograms of its
phosphoric acid cost only four sevenths as
much as the kilogram of soluble phos-
phoric acid. Two kilograms of Thomas'
phosphoric acid also produced the same
effect as ten kilograms of phosphoric acid
in bone meal; hence, the latter is by far
too expensive when compared with
Thomas' slag. The effect of the latter was
far greater the second year than that of
soluble phosphoric acid.

Altogether, this is a fine showing for the
slag, and while it is rated, as insoluble,
at only two cents per pound, I believe we
could afford to give three or even four
cents per pound for it. I would call the
poorer grade, analyzing 20 per cent phos-
phoric acid, cheap at \$12, and the better
article, having 30 per cent acid, cheap at
\$18. I believe it is offered in New York
City at \$12 to \$15. Thus far all of it is im-
ported, but there is a fair prospect that
our own iron industry will soon begin to
furnish it, and probably cheap enough so
we can use it with great profit.

IMPORTANT CONSIDERATIONS.—I have not
hesitated to pronounce phosphoric acid
the most important of all plant foods, and
this for the reason that it is the one most
generally lacking, especially on grain
farms. The cause of this is plain enough.
All our grains contain nearly twice
as much of this element of plant food
as they do potash. The potash goes
mostly into the straw, and is returned to
the soil in the manure. A ton of an
average sample of stable manure has only
four or five pounds of phosphoric acid,
but nine or ten pounds of potash. So we
see that a double portion of phosphoric
acid is sold off the place, and so long as we
confine ourselves to the use of stable
manure, but a half ration is returned to
the land. Grain farming and the ex-
clusive employment of barn-yard ma-
nures, therefore, must inevitably lead to
the exhaustion of the land in phosphoric
acid. Stock raising and dairy farming
also have similar results. In one sense this
is fortunate, at least in so far as it is not
the reverse. Being so well supplied with
sources of phosphoric acid, we can get all
we might need and use it freely without
fear of ever running short of it. If it
were the potash that is so freely sold off
the place, we would soon be at a loss
where to find our supply, and its price
would rapidly run up until it would be
the most expensive instead of the cheap-
est of plant foods.

These considerations show plainly that
we cannot expect much, if any, good from
applications of clear potash under the
circumstances mentioned. The remarks
of Prof. Stover, quoted by my friend, Wm.
H. Yeomans, in FARM AND FIRESIDE of
February 1st, 1890, do not reflect much
credit on such an authority on agricultural
matters. He said:

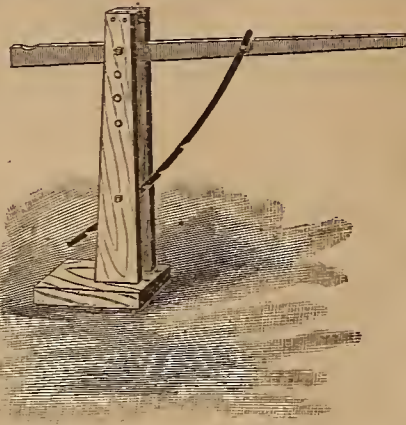
"With the exception of tobacco and
perhaps potatoes, and sometimes upon the
best farms, the Strassfurt salts have failed
to yield the hoped-for profits. The curious
fact is brought out by European experi-
ence that while the phosphate and nitro-
genous fertilizers often repay their cost
at once, and sometimes in a very striking
manner, dressings of Strassfurt salts
have, as a general rule, given little or no
money profit, except in the case of tobacco
and potatoes."

There is nothing curious about these
facts. They are simply the natural results
of the natural causes I have named.
These grain farms need phosphoric acid
more than other elements of plant food,
and especially more than potash. Nitrogen
will be the next thing that the soil calls
for, and it may be furnished in the form
of clover roots and stubble. This, I think,

is a very important lesson for the grain
grower. When his crops fail to give the
accustomed yields, the plant food most
likely to be deficient in the soil is phos-
phoric acid; consequently, this should be
the first to be supplied. It can be done
most cheaply in one of the forms of plain
phosphate mentioned in these articles.

WAGON-JACK.

The wagon-jack of which I send you
an illustration is light, strong and durable,
and does not shove in lifting. It should
be made of hard wood—white oak is best.
The base is 18 inches long, 3½ inches thick
and 4 inches wide; the uprights are 3 feet
long, 1 inch thick and 5 inches wide; they
are mortised into the base, and bolted,
leaving a space of 1½ inches between
them. A block is inserted at the top, 1½
inches thick, and bolted. The lever is 4½
feet long, 1½ inches thick, and 3½ inches



wide at the short end, and 2 inches at the
long end. It is held in place by a loose
bolt in the slot of the upright, and may
be raised or lowered. The ratchet is a
piece of bar iron 1 inch wide and ¼ inch
thick, bolted to lever 2 feet from upright,
and has several notches on its lower edge
which catch on a bolt run through the
uprights 8 inches from base.

Kansas.

E. E. GARD.

IRRIGATION.

Surface irrigation is wasteful in the arid
regions of great heat, because, when we
irrigate on the surface, from eight to ten
pounds of the water taken to the soil are
thrown into the air by evaporation to one
pound used by the crop. (This is simply
a crude estimate of my own. The evapo-
ration on these intensely dry plains, over
which the hot winds sweep constantly in
summer, under a cloudless sky, must be
immense. I think this evaporation has
not been tested in any way, at least I find
no data anywhere, so for the present my
guess of eight pounds for evaporation to
one pound for the crop must stand to com-
pare by.) Now, if we can devise a plan by
which the crop can get eight pounds of
the precious fluid for only one lost by
evaporation we will have well-nigh
reached perfection. I think it can be
done by the new system of subirrigation
combined with underdrainage.

Soils are formed by the disintegration
of rocks. These rocks have in their com-
ponent parts certain mineral matters solu-
ble in water, which, when in excess, are
poisonous to vegetable and animal life.
These poisons are known as salts, such as
common salt, Glauber's salt, sulphate of
potassium, etc. These are injurious only
when present in large quantities. Next,
we have the soluble earthy and metallic
sulphates, such as chloride of calcium,
Epsom salt, bittern, alum, copperas, sul-
phate of copper, etc., and also the alkaline
carbonates and borates of soda, potassium,
etc. Each and every one of these, when in
great excess in the soil, will render it un-
fit for plant growth. But the most inju-
rious of all, as well as the most common,
are the alkaline carbonates and especially
sal-soda. These, by their corrosive nature,
eat into and destroy the tender young
plants mechanically, and may, in arid
regions, make it impossible to grow cer-
tain crops on soils in which they are pres-
ent in very small quantity. They are
soluble in water, and have been brought
down to the plains by the streams, the
water of which gathered them from the
decaying rocks of the mountains. The
water of the streams, when it reached
the plains, was for the greater part
evaporated by the sun's heat, leaving the
alkali directly on the surface. This has
been going on for centuries, and the alkali

has been constantly increasing in the soils
and subsoils of the plains, and it is a fact
proven by chemical analysis that the soils
and subsoils of arid regions are charged
with these alkaline caustic salts. In some
of the drier regions of this continent they
have accumulated in "the sinks" on the
plains in quantities, and nearly pure
enough for the purposes of commerce,
both in the forms of sal-soda and borax.

The soils of the great San Joaquin valley
and all the valley soils of south California,
and also of Nevada, Arizona, Utah and
New Mexico, and we may say valley soils
everywhere from which the surface water
of rains does not flow off to the sea, contain
a large percentage of alkali. As a rule, no
flood water or rain water runs from these
southern valleys to the sea, therefore the
alkali is stored up in the soil, and the sub-
soil clear down to the bed-rock is full of it.

Now, we will say that ten inches of rain
falls on the surface of one of these alkali-
valleys during winter. It is all ab-
sorbed and wets the soil down four feet;
the alkali in that four feet of soil is ren-
dered liquid and held in solution by the
water; all the rainfall in these valleys is
evaporated from the surface by the sun's
heat, and as the alkali cannot evaporate,
it is left directly on the surface of the
ground, where, by its corrosive action, it
kills nearly every kind of growing plant,
and kills or prevents the sprouting of
their seeds. Now, if we bring water for
irrigation onto such land which carries a
certain percentage of alkali in solution, as
all the river waters, etc., before named do,
what will be the result? There will be a con-
stant accumulation of alkali. All waters
brought onto land for irrigation evaporate
from the surface, except what is used by
the crops, and even from what is used by
them the alkali is left behind in the soil.
Then, soon, in irrigated soils the alkali is
concentrated at or near the surface, the
plants do not grow so well as at first,
more water is used, the subsoils are
wetted deeper and deeper, and eventually
the great mine of alkali beneath is brought
to or towards the surface, with the result
eventually that nothing can be grown on
it. This is a true forecast of what will
eventually happen in all the valley soils
of these arid regions under the present
system of surface irrigation. The world's
history proves it most conclusively.
"Babylon is fallen," not by the direct
curse of God, but by the curse of alkali.

Egypt has not fallen, because the yearly
overflow of the Nile washes out the alkali
and carries it away to the sea. Lombardy
has not fallen because her winter rains
are sufficient to do the washing. Spain,
once the glory and wealth of Europe for
productiveness, is now in the depth of de-
spair and poverty from alkali; the same is
true of Turkey and the Caspian region.

Then, what is the remedy for alkali?
Simply underdrainage and winter flood-
ing with water sufficient to carry the al-
kali off through the underdrainage, or
what would be very much the best, sub-
irrigation combined with underdrainage.
Such is the only simple process by which
alkali can be got rid of.

There is another fearful danger in a hot
country, surface irrigated without under-
drainage. Namely, malarial fevers and
all the other ills that go with them; the
vast amount of open ditches, with more
or less of stagnant water left in depres-
sions, the constant contact of impure water
with fresh, rich soil, the decaying animal
and vegetable matter left by such water as
it evaporates to die and putrify, generate
disease. Besides, the whole substrata in
time becomes completely saturated with
water. The old settler, before spoken of
at Fresno, had to dig seventy feet for water
fourteen years ago, before water was
brought on the land, finds the water to
stand in that well now the year around
within four feet of the surface of the
ground, and water in the wells of that ex-
treme region now stands in the wells within
eighteen inches to eight feet of the sur-
face, and it looks now as if the result in
the near future will be that all the lower
places in the plain will be stagnant, stink-
ing swamps.

D. B. WIER.

THAT \$29.70 PARLOR SET.

The remarkable offer of the Wilber H. Mur-
ray Mfg. Co., of Cincinnati, O., in a recent issue
of this paper, is being taken advantage of by a
great many of our subscribers, and the way they
are pleased is shown in the following letter:

FARMER CITY, ILL., February 8, 1890.
Wilber H. Murray Mfg. Co., Cincinnati, Ohio:
SIR:—Received the parlor set all O. K. Am
well pleased with it for the money. One of
my neighbors gave \$50 for the same kind of
set. Thanks for your promptness in sending.
Yours very truly,
A. HELMICK.

THE STRAWBERRY.

About a year ago I promised an article on the strawberry. Although I have carefully studied this fruit for the last seven years, the information gained during the last year has modified my views in a few instances, and changed them entirely in one or two respects. A few of the sayings in connection with strawberry culture, and so universal that many regard them as maxims, are as follows:

First—A grower should find the varieties adapted to his soil, and, then plant them.

Second—A berry may be profitable in one locality and an utter failure in another, or rather, berries that are standard in one section of the country are not likely to be so in another.

Third—Strawberries should not be planted in freshly-manured ground, if you want fruit.

Fourth—Plant strawberries in the fall, and you may secure a crop of fine fruit the next spring or summer. This is believed by many inexperienced persons, but not by market growers.

Let us consider these propositions. In order to save time and space they have been numbered:

First—Many have believed so thoroughly in this that it is common to hear growers say, "A variety will do well for one man, and be an utter failure for an adjoining neighbor." If a variety is doing well in a locality, no one there should be afraid to plant it, for it is probable that its relative value will prove the same on all soils and in all situations throughout that locality, and for many miles around. This holds good in sandy, clay and black soils. There may be now and then men whose observations and experiences are different from those of their neighbors, but we should remember that "one bird does not bring summer." Another year usually serves to bring these men with exceptional views and experiences to the common ground of their neighbors.

Second—This statement is somewhat analogous to the first, but differs in that it has a wider range, for the word section is here used. The comparative value of varieties is very much the same from the Atlantic seacoast to the western part of Kansas. When I first began the study of this I was much surprised to find that the variation was so slight throughout Ohio. Further examination showed that what was standard in Ohio, was also in Indiana and Illinois. My inquiries were next directed to market growers of Missouri, Iowa and Kansas, and somewhat to my surprise the answers were the same as those received in Ohio.

From the failures of growers in the Mississippi valley with many highly lauded varieties of the eastern states, we came to the conclusion that we could not profitably grow the same varieties grown east of the Alleghanies.

A recent trip into New Jersey, and much conversation with some of their market growers, has shown that the standard market varieties of the East are also the standard market varieties of the Mississippi valley. Then, whence comes all the errors in belief so prevalent among many growers? From the catalogues gotten up exclusively for the purpose of selling the varieties catalogued; from the articles written for the press and the reports made to county and state horticultural societies by persons whose views are biased.

Going from south to north we find a much greater difference in the comparative value of varieties than in going east and west. A single example will suffice to make this clear. In this latitude the Sharpless requires a long and favorable season to develop itself sufficiently to produce well the following year. Further south it has a longer season. This accounts for its being more productive in Georgia, Tennessee and Arkansas than in Ohio and states of the same latitude.

Third—This also has added to it by many, strawberries should be planted in poor ground. I use large quantities of manure, and three fourths of it is hauled directly from the stables to the ground. Often the strawberries are planted in this freshly-manured ground. Last year much

of my planting was in such ground, and the buds now look as promising as any to be found. The strawberry, like the potato, thrives best where there is an abundance of humus. If the cultivation is judicious, no one need fear drouth in the average soil if manured even to excess.

Fourth—Many persons attempt growing strawberries by planting in September and October. No greater mistake can be made in our northern latitude. This may do farther south, where the climate is such that the plant continues growing nearly all the winter. It is better to plant in July than August, and far better to plant in August than later. Although I have planted on an average of fifteen thousand strawberries each year for seven years, I do not think I have sufficient experience to successfully plant them in September and October; at least, all my attempts have been failures. Although I have succeeded in getting some of them to live and grow, the labor was much greater, and the results never satisfactory or profitable.

An article on this fruit, at this time of year, without something on varieties, would hardly be complete. We would recommend for family use and for market only such varieties as have proven their value by repeated tests over a large area of country—over all the northern Mississippi valley and the southern lake region. The three most reliable and profitable are Crescent, Haverland and Bubach No. 5. It is difficult to tell in what order they should be ranked. Crescent was put first because it has been before the public longer, and has withstood the test satisfactorily under all conditions. All three of these varieties have imperfect bloom, and require a perfect-blooming variety—a fertilizer—near them. For this purpose the Jessie will, in the majority of cases, prove as good as any. Some growers prefer Cumberland, Sharpless or Wilson's. A few use May King, Sucker State or Parry. I use nearly all these varieties as fertilizers, but now give Jessie the preference. Captain Jack is used in the West. From one third to one half of all the plants set should be perfect-blooming varieties. There are hundreds of varieties named in catalogues, and nearly all of them highly recommended, but you should remember that none of them have withstood the test of market growers as well as those named.

A few of the newer varieties deserve testing. Among them are Crawford, Louise, Felton, Gillespie, Warfield and Pearl. I will close by saying that it will pay ninety-nine men out of every hundred better to put money in manure and tillage than to invest in new varieties at \$2 per dozen. I write this with an appreciation of what knowledge is the most valuable to the fruit grower, for I test about fifty varieties every year, and shall continue to do so. My information in this respect comes, not only from my own experience, but from visiting the grounds of our experimental stations and many other careful growers.

THEO. F. LONGENECKER.

Montgomery county, Ohio.

SEEDSMEN'S CATALOGUES.

The leaves of autumn are not more brightly painted than the covers of the catalogues which the seed sellers annually send out. Although coming in the cold months of winter, their colors are most gorgeous; and their coloring is not only on the outer leaves and inside plates, but the word painting describing some new vegetables exceeds in fancy all else.

Under the lamplight, with the fine book sent out by some enterprising seedsman, many a fine garden is planned on paper and in the mind, only to make the toilsome work of the coming summer the more disagreeable when the facts are learned that there are such things as poor seeds and good seeds that will not grow on poor soils; and, worst of all, to find out that the fine book with such fine pictures and descriptions is a humbug.

Much of our trouble comes from not being able to read the catalogues aright. A multitude of words are used to cover up the real meaning. The seedsman has a novelty, of which he makes a specialty, and it is to this he seeks to draw the attention of his readers by means of wordy

descriptions, colored plates, tinted paper, fine wood cuts, etc. In this way our attention is drawn away from articles of real merit.

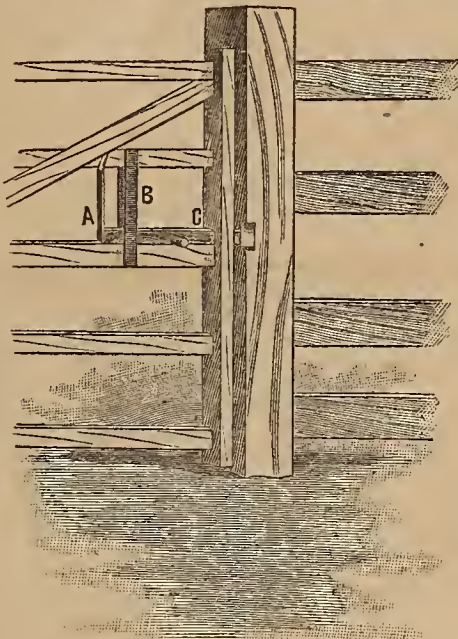
In the catalogue of a leading seedsman this is the way the Early Erfurt cauliflower is described: "Large, compact and very white." Now, what better can one ask, for in this vegetable the name itself denotes its earliness. If it is large, it can be only comparatively larger, and the same with compactness and whiteness—qualities that are very desirable. But this seedsman has a new variety of his own naming, to which he gives a colored plate and several pages of description. But with all that he cannot give the qualities of a desirable cauliflower better than is given in the Early Erfurt. But what he seeks to do and does do is to sell a few seed of his new named cauliflower for seventy-five cents, while he would have to sell, on account of its being a common sort, a well-filled package of the Early Erfurt for five cents.

I have used the cauliflower only for the purpose of illustration. The same is true of nearly every vegetable. This year I find, in looking over the catalogues, that there are new cabbages, new tomatoes, new potatoes and new everything grown in garden or field. But I am confident of one thing, that when we try these things we will be compelled to say that the new names are about all that is new in them.

Franklin county, Ohio. E. C. GREEN.

GATE-LATCH.

Mr. Albert Buchanan sends a plan of a gate-latch used on barn-yard gates which open both ways. A is a steel spring which holds the latch shut; B, two pieces of iron



between which the bolt, C, slides. The mortise is in the middle of the post, and the corner of the post is beveled on each side.

IMPROVE THE POTATO CROP.

It is the general experience that the potato, after a few years' growing, "runs out," or fails to produce a paying yield, and what is grown is of small size. An experience of ten consecutive seasons, commencing with the season of 1880, demonstrates that proper selection of seed each season, with good care and culture, will not only overcome the habit of running out, but will greatly improve the size and quality of the tuber and the yield of the crop.

At digging time the largest, finest and most perfectly formed were taken for seed, and this plan was strictly followed each season, giving, in addition, the best care and cultivation that could be done, with the happy result of an actual improvement in the size, smoothness and general form of the tubers, with an increased yield of crop, when the soil and season were favorable. Samples of these have been almost every season placed on exhibition at fairs, and have invariably carried off first prize.

This result is valuable in more ways than one. First, the potato, for all uses, is improved. Second, the yield is much increased. Third, the great expense of obtaining seed of new varieties to take the place of those run out is altogether avoided. It is believed that if this course were pursued by all potato growers that there

would be little need of new varieties; in fact, the best varieties taken at first and treated in the manner herein set forth, the improvement would outstrip all new varieties.

Close planting tends to deteriorate the potato. Small tubers result and the quality must be inferior. Hills wide apart will give better yields of large tubers and better quality for table use. An experiment this season shows that wide spaces produce large tubers, while close planting produces small ones. One acre was planted three feet by nine inches, and while the yield was very good, and the tubers of fine size and form, they were not near as large as another acre, same soil, planted three by one and one half feet; these were very large and best suited to grow from.

To obtain the very best seed—that which will invariably improve the quality and yield of the general crop—it is an excellent plan, first, to select the largest, finest and best formed tubers and cut these in large pieces; second, select the very best soil obtainable; prepare this by deep plowing and subsoiling, making the soil fine and deep. Plant the pieces in rows three and one half feet apart both ways, one piece in a place, about four to five inches deep, covering with a plow or double cultivator, and in three or four days after planting go over with a harrow, making the surface smooth and fine. As soon as the sprouts begin to come through the ground, cultivate with double cultivator, or any implement that will run deep and throw the soil onto the row; then harrow this down level and make the soil fine, and as soon as the sprouts are three or four inches high, then cut to one stalk in a hill. With one stalk in a hill, three and one half feet apart both ways, an opportunity is given to make the best possible growth, both of stalk and tubers. This is the order of improvement for the potato, and the result will be most satisfactory.

If improved progeny may be expected from high-bred animals, may not improvement upon the general crop be expected from "high-bred" seed potatoes? Why should not farmers and gardeners pursue the same course to improve vegetables and grains that is adopted by live-stock breeders? Do not the principles of improvement apply with equal force to the growth of farm and garden products which have wrought such mighty changes in the live-stock department? With less labor and more care and thought, the same amount, with improved quality of products, might be realized by agriculturists.

"Knowledge is power," and no department of life will verify this saying more than agricultural life. Knowledge is obtained on the farm and in the garden by investigation, thought and then experiment. Progress means more knowledge to-day than was possessed yesterday; progress implies increased knowledge put to practical proofs; progress is the pathway which leads from savage to civilized life; progress implies increased and increasing intelligence and enlightenment. Iowa. E. S. TEAGARDEN.

NEW ENGLAND FARMING.

One of your correspondents claims that New England farming has gone to the wall. As I am a New England farmer I will say there are many deserted farms in the old Bay state. Why? Because the young people leave the farm as soon as they can, and go to the cities, and many of them have a hard time to get along. The old people are left on the once prosperous farms to get their own living; consequently, the farm and buildings run down and the farm is sold at a very low price or abandoned. If the young men would stick to the farm they would have no trouble in getting a good living and making a few dollars. It is true that the West ships almost everything East, but let one deprive himself of the comforts of life here as in some parts of the West and they will make as many dollars. They will not do that. They must have a fine horse to drive and want one faster than their neighbors, and much time is spent on the road, and the hired man is left to do as he chooses. Now, I say from experience, if the New England farmer of intelligence does his best he will reap his reward. New England is not dead yet. It wants push and energy. There will always be a class that will do nothing, East or West. I find the men that are willing to work are rewarded in the end. If the farmers would combine it would be for their interest, East and West. Massachusetts. JAS. J. O'BRIEN.

Our Farm.

GARDEN NOTES.

BY JOSEPH.

QUICKENING THE SOIL.—Before me is a letter from Chapman, Kan., in which the writer tells of his clayey soil that produces garden stuff fairly well, but so late in the season that Lima beans and the like will not come to maturity. The query now is, what fertilizer should be applied to make the produce earlier?

I have had to answer a number of similar inquiries recently, and this only shows (if it could not be seen by looking around over the farms in any locality) that instances of this kind are not rare. Our friend proposes to hurry up his crops by digging holes and filling them with sand, in which to plant his Limas, tomatoes, melons, etc. He seems to be well aware that the trouble is more with the mechanical condition of the soil than with lack of fertility. This, indeed, is the case in very many instances, and often where not suspected.

The gardener whose soil rests upon impervious subsoil will always find himself hampered and at a disadvantage. The soil is cold, and usually too wet in the fore part of the season to allow of much early growth. To attempt to correct this fault by means of liberal applications of fertilizers, will usually be money and labor thrown away, and a waste, at best. A permanent improvement can here only be brought about by thorough underdraining and perhaps subsoiling. This will do more to warm the soil and hurry up the crops, and at the same time protect them, in a measure, against the influences of a drouth than any manure that could be applied. Where the production of garden stuff pays at all, this preliminary treatment of the soil pays well; in fact, is a first condition of success. Afterwards, we may improve the top soil by additions of sand or of compost, etc., to make it more porous and warmer. By all means let our friend try this course, and I think he will be pleased with the results.

THE BLACK SQUASH BUG.—The same correspondent inquires what to do for this disgusting insect. There is really but one thing to do, and that is to hunt them up and mash them; and also to look for the eggs on the underside of the leaves (they are very conspicuous) and pick them off. If some system is adopted in this warfare, victory can be won without great effort. Put pieces of shingles, flat stones, etc., around the plants in such a way that the bugs will find convenient hiding places under them. Then provide a pair of simple wooden or iron tweezers, and examine your hills as often as may be needed, lifting up the material under which the bugs are hiding, and mash them with the tweezers.

EARLY RUBY TOMATO.—Some of my friends undoubtedly remember that I have repeatedly spoken of a very superior tomato which a neighbor gave me on trial a few years ago. I then called it White's pet. I really do not know of anything superior for market or canning in existence. This variety, I believe, is now being introduced by Henderson & Co., of New York, under the name of Early Ruby. Mr. Burpee's Matchless is also of the same character, and may be the very same. The Early Ohio (seed of which one of our Ohio readers kindly sent me, with out telling me anything of its origin) resembles Ruby and Matchless, and is also a decidedly good thing. Indeed, the recent improvements in tomatoes are really wonderful.

Orchard and Small Fruits.

CONDUCTED BY SAMUEL B. GREEN.

GOOSEBERRY.

To grow gooseberries to perfection, the soil should be well enriched with stable manure, about the same as for strawberries. They like plenty of food, and the more they get the better they thrive. We find a clay loam, well enriched, the best of all soils for the gooseberry, but any soil will do when properly enriched and cultivated.

PROPAGATION.

We propagate principally from layers, by bending down the limbs from old

bushes and covering them with rich soil. They will readily take root and make fine plants. Some varieties grow readily from cuttings, such as the Houghton, Smith's Improved, etc. All varieties of coarse, heavy wood will not readily grow from cuttings.

PLANTING.

We plant in the fall of the year, every time, when we can. The gooseberry starts so early in the spring that the best growth of the season is lost when planted in the spring. We usually plant in rows five to six feet apart, and three to five feet apart in the rows. Strong-growing kinds, such as the Downing and Houghton and some others, should be set not less than four to five feet apart in the rows, and rows not less than six feet apart. Varieties such as Whitesmith and Smith's Improved, and a few others of dwarfish growth, can be planted nearer. Cultivation should commence early in the spring, as soon as the ground is in good working order. Keep the ground well worked and clear from weeds until frost. We use the cultivator and a one-horse plow. We are careful to not plow deeper than three or four inches, so as to not destroy the roots of the growing bushes.

PRUNING.

This is of great importance, and right here is where most people fail, in not pruning enough. Don't be afraid to prune until you think you have nearly ruined the bush, especially after they have borne fruit for several seasons and the bushes are inclined to become old. A good rule is to thin out so that the branches are from four to six inches apart, and not more than four to eight stalks should be allowed to grow in a stool or hill. Also, the ends of the bushes should be cut back each year from one fourth to one half of the previous year's growth. Unless severely pruned annually, the fruit will become smaller from year to year.

VARIETIES.

We are frequently asked what varieties of gooseberries are best, or which would you plant? If we were to

YIELD PER ACRE.

We have grown 250 bushels per acre. Perhaps it would be safe to say that from 100 to 150 bushels per acre is an average crop. Last season we picked from bushes planted in 1884, sixteen quarts to the hill. The bushes were so heavily loaded with fruit that they lay flat on the ground.

PRICES.

The prices vary as much as for any fruit. They usually bring from \$2 to \$3 per bushel. I have sold them as high as \$4 per bushel.

We have discarded as unworthy of cultivation the Mountain Seedling and Smith's Improved. The former is a large bush with large fruit of inferior quality, and a shy bearer. The latter is a very shy bearer and poor grower.

SEEDLINGS.

For many years past we have been in the habit of growing seedlings from the best varieties, and it is astonishing to see the difference in plants from the same seed. We have some very fine berries among these seedlings, and with all the colors which gooseberries have. Some are green, purple, white, red, or yellow; some of large size, some medium, and others small, but nearly all of them better than the old Houghton Seedling. We expect, in a few years, to produce a berry to beat even the best English varieties, which do nothing in this climate.

Illinois.

PHIL. STRUBLER.

A FINE COMMON SENSE CART.

There is not a thing that has come into more general use in the last few years than the two-wheeled road carts, of which there are many kinds and styles, but there are none that has impressed us more favorably than the "Murray Improved Elegant," it being a high class cart in every



A "MURRAY" \$32.70 TURNOUT.

The "Murray" Improved Elegant Cart with Bundle Rack and the No. 3 "Murray" Harness. See description on page 193.

respect, having a good sized bundle rack back of the seat, where a person can carry packages, etc., making it very convenient and practical. We would call the attention of our readers to the cut showing this cart, and the No. 3 single strap "Murray" harness, on page 193. The Murray people are manufacturers of the celebrated "Murray" \$55.95 Buggies and \$5.95 Harness, and a full line of all kinds of vehicles and harness, and the immense business they are doing proves conclusively that their goods recommend themselves. We would advise all those contemplating buying to write to them for their catalogue and prices. Their address is Wilber H. Murray Manufacturing Co., Murray Building, 139 W. Front St., Cincinnati, Ohio.

plaut for market, we would plant first, Champion, Downing and Houghton, in the order named. If for home use, Downing, Puyallup Mammoth, Champion, Whitesmith and Industry. Downing is a fine berry, but most too tender for long shipments when ripe. Champion is the best shipper of them all. Puyallup Mammoth is one of the largest berries, and is an American seedling. It is a vigorous grower; color, light green when ripe. The Downing is medium to large in size, berry light green, with a bloom of same color when ripe. It is a very vigorous grower, and one of the best. It is an American seedling. The Champion is also an American seedling, of from medium to large size; color the same as Downing, without the bloom; bush of dwarfish growth; an immense bearer, and one of the best of shippers. Originated in Oregon.

Whitesmith is an English berry, a good bearer, light green when ripe, and of large size; growth dwarfish, but sometimes subject to mildew.

Industry is a large, red berry of recent introduction; an English variety of large size, but liable to drop its leaves. I think it would do well on high land, with a northern exposure, in clayey loam soil.

Houghton Seedling is too well known to need a description. It is immensely productive, but too small.

respect, having a good sized bundle rack back of the seat, where a person can carry packages, etc., making it very convenient and practical. We would call the attention of our readers to the cut showing this cart, and the No. 3 single strap "Murray" harness, on page 193. The Murray people are manufacturers of the celebrated "Murray" \$55.95 Buggies and \$5.95 Harness, and a full line of all kinds of vehicles and harness, and the immense business they are doing proves conclusively that their goods recommend themselves. We would advise all those contemplating buying to write to them for their catalogue and prices. Their address is Wilber H. Murray Manufacturing Co., Murray Building, 139 W. Front St., Cincinnati, Ohio.

HYBRIDIZING THE BLACKBERRY AND RASPBERRY

The Rural New Yorker claims to have succeeded in hybridizing the blackberry and raspberry, but the results thus far are not at all in the line of encouragement of the work. The fruit produced by the hybrid was small and inferior. It is, however, interesting to learn that such a hybrid has been produced, and we do not doubt but what Mr. Carman, the editor, can do it successfully if any one can.

DON'T BUY A POOR PIANO.

The Marchal & Smith Piano Company, of New York, send elegant, fashionable pianos direct to the purchasers, saving nearly half in costs. Don't let agents persuade you to buy poor pianos.

INQUIRIES ANSWERED

BY SAMUEL B. GREEN.

Hardy Fruits.—H. W., Mayville, Wis. Try Early and Late Richmond cherries. DeSoto, Forest Garden and Weaver plums; Flemish Beauty, Keiffer and Bessemiauka pears.

Fungus on Apples.—J. A. K., Jefferson county, Iowa. The trouble you mention is caused by a fungus attacking the fruit. It may be kept off by spraying with solutions similar to those used to protect grape vines against rot, but probably your best way is to re-graft the tree with more healthy kinds.

Pruning Gooseberry Bushes.—S. J. G., Weldon, Ill. Cut out all the dead or weak wood, and shorten in one half all the new wood. Clean the grass away from the roots and keep it away, and manure heavily. If you follow this plan every year, your old bushes will appear young and thrifty again.

Pruning Vines.—G. G., Dalton, Ga. You need not be afraid of pruning your vines too close. Leave only one strong bud to start from each joint, and you will get more and better fruit than if more wood is left. I do not understand your question well enough to answer it as I would like to, but on general principles you had better leave only sufficient wood to renew the old wood where needed, and to furnish good fruiting canes.

Meech Prolific Quince.—R. G., New Castle, Pa. The Meech Prolific quince has not as yet been sufficiently tried over the country to have its merits become well known. Some excellent authorities report very favorably concerning it. From my own experience I doubt if it grows so strongly as described, for I found it difficult to distinguish its growth from that of the Orange quince. I think it well worth experimenting with, however.

Commercial Fertilizer for Strawberries.—V. S. C., Allegan county, Mich. Use, for one acre, 250 pounds ground bone, 100 pounds high grade (80 per cent) muriate of potash, and 50 pounds sulphate of ammonia. If the soil is rich, do not use so much sulphate of ammonia; if it is poor, use more of it. The nitrogen compounds stimulate leaf growth, while the potash causes the formation of starch and sugar. The phosphoric acid of the bone aids much in the formation of seed. This fertilizer should be applied early in the spring.

Probably Borers.—G. D. F., Spartansburg, Pa., writes: "Can you tell what all my pear trees down near the ground? The bark cracks for about four inches in length, two or three places around the tree. The bark withers, and the tree dies."

REPLY:—I cannot tell you. It may be that your trees are full of borers, which destroy the wood, and then the bark pulls off; and it may be a sort of blight. In either case the dead bark should be cut away, and the whole wound be covered with a mound of soil to protect the wood from the sun, when it may heal over.

Grafting on Miner Plum.—D. S., Des Moines, Iowa, writes: "The Miner plum tree is no bearer here, but is very thrifty and hardy. Do you think it would be a good tree on which to graft the Lombard and other good varieties?"

REPLY:—Yes, it is as good a thing as you can do with it. I think you will find the varieties of the *Prunus Americana*, such as DeSoto and Forest Garden, to be more valuable in your climate, as they are not so susceptible to the attack of the curculio and gouger as the *Prunus domestica* varieties, of which the Lombard is one.

Tobacco Stalks for Orchard Fertilizer.—J. W. J., Carter county, Ky. It would be best to cut up your tobacco stalks into pieces one foot long and pile them up with alternate layers of hot horse manure, and keep moist. If you cannot well cut them, pile up without cutting in the same way, and they will rot and become soft after a short time. Turn the whole pile over a couple of times, adding about one fifth of its bulk of dry turf, or peat, to retain the ammonia, and then apply as a top-dressing around the trees as early in the spring as possible. If the ground is not in turf, barrow the manure well into the soil.

Pears for Central Illinois.—S. S. C., Pleasant Plains, Ill. It is very difficult for one not well acquainted with your peculiar location to recommend a list of fruits. By inquiry of your neighbors you should be able to obtain much better information than I can give you. I suggest the following as a list of valuable pears likely to do well in your locality, but the number of each kind you must determine by your opportunities and your market. I recommend Bartlett, Keiffer, Howell, Flemish Beauty, Seckle. The pears ripen in the order named, and are all valuable. Perhaps of them all, the Bartlett and Keiffer are the most profitable for marketing.

Best Manure for Strawberries.—M. M., Harford county, Md. The best manure for strawberries for you to use depends much upon your location and surroundings. If you can get plenty of well-rotted stable manure, it is probably the most economical and best fertilizer for you to use; but it may be that you can get plenty of ground bone or sea manures, in which case they are good when properly applied. Ground bone and some of the cheap, low-grade potash salts are excellent fertilizers when used together for berries. Wood ashes, when used with stable manure, are generally very effective in your locality. The high-grade ammoniated superphosphates, or combinations of fish and polash, are most excellent fruit fertilizers.

Grafting Wax—Grafts—Root Grafting.—L. L. P., Canton, Ohio. A good grafting wax is made by melting together three parts rosin, three parts beeswax and two parts of tallow. When made, it should be of such consistency that it will not stick much to the hands, will admit of being easily applied when softened by warmth, and will not melt in the sun in summer. If found too hard, a little more tallow should be added; if too soft, add more rosin. The grafts, or scions, which I suppose you mean, should be cut in the fall, but may be cut any time before the buds start in the spring. For the best success the coming spring, cut them as soon as you can, and bury them in the ground in the shade, or in a cold cellar, until spring. The cherry is sometimes root-grafted, but both cherry and peach are most readily budded in this climate.

Our Farm.

THE POULTRY YARD.

conducted by P. H. Jacobs, Hammononton, New Jersey.

CHOLERA AND INDIGESTION.

It is seldom that birds have cholera in the winter season unless the weather is warm, for the frost seals up the filth and odor, and protects the birds against the neglect to clean on the part of their owner. Many persons take indigestion to be cholera. Indigestion is mostly due to a lack of gritty substance, the food not being properly ground in the gizzard, and consequently not so readily digested. It leads to diarrhoea and other bowel troubles, and is more prevalent in flocks that are overfed and fat than in those that are in moderate exercise. The best remedy for it is to give the birds plenty of sharp grit, add a teaspoonful of pulverized charcoal to the food, once a day, for each fowl, and put a lump of lime in the drinking water.

Cholera may be known by the frequent greenish droppings and great thirst on the part of the affected birds. Indigestion does not cause the intense thirst which accompanies cholera. As the birds will refuse to eat, the way to give medicine is in the drinking water; as the intense thirst will cause the sick birds to drink readily, they will partake of any kind of medicine that may be given in the water, hence, to every half gallon of drinking water add a teaspoonful of liquid carbolic acid. It may not cure in many cases, but it is the best remedy that can be used. A bird may suffer with indigestion for weeks before succumbing to weakness; cholera makes short work of its victims, and usually kills or cures in twenty-four hours, though at times birds may live two or three days.

When cholera appears, remove all sick birds and thoroughly disinfect, not only the houses, but the yards, with a solution made by dissolving a pound of chloride of lime in four gallons of water, and saturating everything that a fowl may come in contact with—roosts, nests, floors, yards and even the walls, and repeat it two or three times. Spade up the yards, clean up thoroughly, burn all dead birds and use every precaution to keep the disease from appearing again.

DISINFECTING AGAINST ROUP.

The damp, warm weather is very favorable to roup, and it is difficult to prevent it at times, even under the best of conditions. A box of air-slaked lime should be kept convenient for use, and the poultry-house floors, as well as the outside yards, should be well dusted with it as often as it may be convenient to do so. The walls of the house should also be whitewashed occasionally, and a lump of lime should be kept in the drinking water. It is not claimed that this method will always prevent roup, but it will prove more valuable than if no such precautions are taken, and is recommended more for its simplicity and cheapness than for any other reason. The real best remedy is warmth and cleanliness, and as lime will add light to the interior of the house, and also assist in absorbing the moisture therein, it will be found of valuable assistance in promoting both cleanliness and the health of the fowls.

DIFFICULTY IN WATERING FOWLS.

How to prevent the water from freezing is a difficulty not easily surmounted. Cold water, with the surface frozen, chills the fowls, and a larger proportion of food must consequently be eaten to warm the cold water within the body. The better plan is to warm the water three times a day, let the fowls drink and pour out the remainder. In this manner the hens will be fully supplied and they will be invigorated by the warmth from the water.

A SUCCESSFUL COMBINATION.

Rings, pools, trusts, combines, monopolies—all them what you will—they are fast increasing throughout the length and breadth of this country. Legislators denounce them and newspapers attack them, but still they seem to flourish. It is gratifying, however, to note that there is at least one combination in this country that meets with the approval of the public, especially of farmers: It is composed, not of individuals, but of the following quartet of harvesting machines: Deering Binder, Deering Light Reaper, Deering Giant Mower, and New Deering Mower.

SUDDEN CHANGES OF WEATHER.

Sudden changes of the weather from warm to cold and from cold to warm are very trying to fowls that are accustomed to foraging, as the inactive condition during cold weather causes them to take cold unless well protected in warm houses, and as they may not be partial to confinement they will not lay as many eggs, due to restlessness and dissatisfaction.

They should be given plenty of litter in which to scratch, and their food should be given in the litter, unless allowed a mess of warm food, which may be fed in troughs.

A DESIGN OF A FEED-TROUGH.

A feed-trough by Mr. T. W. Moek, Alton, Ontario, is presented. It is three feet long, Fig. 1 showing the trough ready

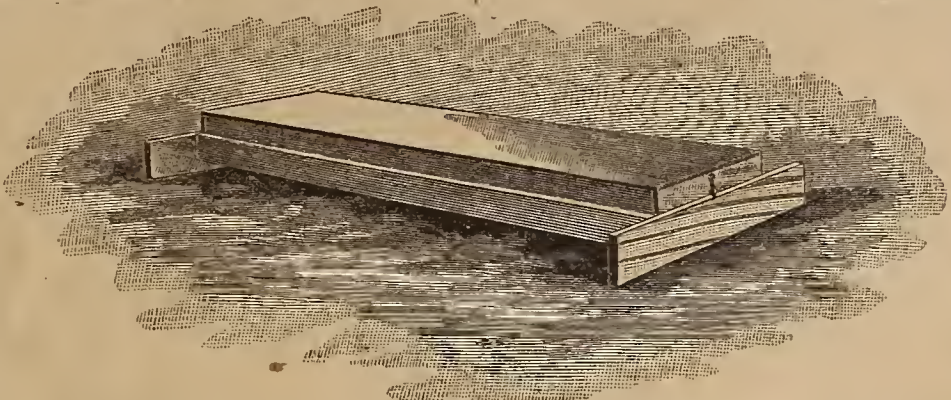


FIG. 1.

for use. The top, B, in Fig. 2, can be taken off when necessary to place food in the trough or to clean it. The top is three feet long, seven inches wide and five inches high, with hooks at each end. It also prevents the hens from getting into the food and fouling it. The lower part in Fig. 2 is three feet long, fifteen inches wide (at the end pieces) and six inches high. The box proper, A, is nine inches wide inside (which permits the upper box to fit in nicely) and two inches deep. There are only eight pieces of boards in the whole, which, with the exception of the ends, may be made of half-inch material, thus rendering it light and easily handled.

TREE-TOP ECONOMY.

If every farmer could be made to understand that he pays dearly for the use of tree tops as roosts, he would soon resort to some better method of attempting to economize. As long as the animal heat of the bird is sufficient to keep it from freezing it will exist, but it cannot keep warm on nothing. The farmer pays for

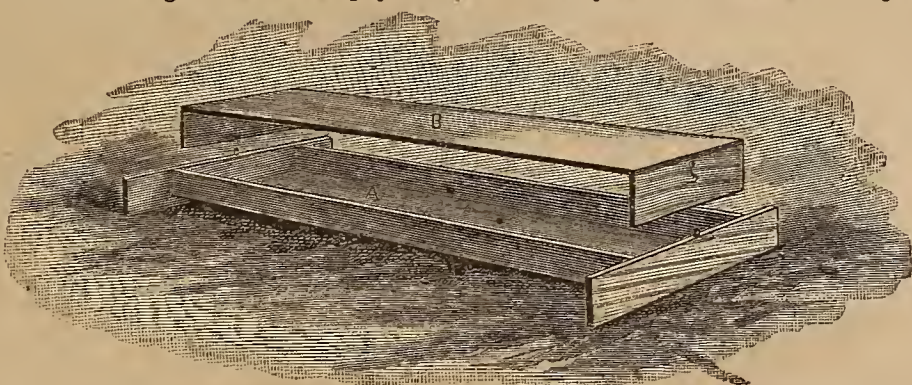


FIG. 2.

all this loss of heat on the tree tops with food of some kind, and there is no surer way of wasting food than to give it off from the body as animal heat. As so much heat is thus wasted, the hen will not be able to lay, the total result being a loss of food and a loss of eggs.

YELLOW LEGS AND SKIN.

The American preference for yellow legs and skin, as indicating the quality of the birds for the table, is based on nothing more than a notion. How the prejudice originated against birds with legs other than yellow we do not know, but we do know that buyers who judge of the quality of a dressed fowl by the color of the legs deprive themselves of the choicest kinds to be had. If legs had anything at all to do with quality, the dark-legged birds are superior, as it is only a matter of chance that such superb table fowls as the Houdans and Langshans have yellow legs. One can cut off nice slices from the breast of a Honan or Dorking, and the flesh is juicy and tender, yet neither breed has yellow legs. But few Games have yellow legs, yet there is not a yellow-legged fowl

known that can approach, in the slightest degree, to the Game in quality of flesh and large amount of choice meat in proportion to offal. The "yellow-leg notion" is one of the most foolish with which the American people are affected, and as long as they indulge in it they will be supplied according to their preferences and be deceived the birds that are better.

SOME ADVANTAGES OF WYANDOTTES.

Wyandottes are not large, compared with the Asiatic breeds. The full-grown Wyandotte cock weighs at least eight and one half pounds, and the hen six and one half. They are, however, larger than Leghorns or Hamburgs, and are an American breed. The advantages possessed by Wyandottes are small, rose combs, medium size, plenty of feathers and early maturity. They have yellow legs and

skin, and are hardy, active and good layers. The rose comb is one of the best features, as such a comb is not so liable to the effects of the frost during severe cold weather, but rose combs are not entirely exempt from the attacks of cold. The size of the hens is such as to make them good sitters, not being so liable to break their eggs as are heavier hens. We do not claim that Wyandottes are the best of the breeds, for other breeds excel the Wyandottes in some particular respects, but the Wyandottes combine many excellent advantages for eggs and as a market fowl. They not only stand confinement fairly well, but are also excellent foragers when on a free range.

LIGHT UNDER BROODERS.

The aversion of all kinds of poultry to darkness is one of the causes of the loss of chicks in brooders that are not properly constructed. Chicks will not go under the brooders if the brooders are dark, and the consequence is that they become chilled and gradually droop. A brooder should be warm, light and cheerful, and should be so constructed that the chicks can scratch and eat under the brooder as comfortably as when outside. It requires

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FROM OREGON.—Jackson county, Oregon, is the place for the man with moderate means. Good land can be had from \$5 to \$50 per acre. All kinds of fruits do well, especially apples, prunes, plums and pears. Our apples are bought mostly by California buyers, while grapes, apricots and peaches go to supply the Willamette valley. D. W. B.

Central Point, Oreg.

FROM KANSAS.—Graham county has been settled about twelve years, and is well settled by a good class of law-abiding, temperance people; it is well adapted to farming and stock growing. The winters are short and mild, and grass and water plenty at all times. It is a good county for vegetables, especially early kinds, as springs sets in early here, and the soil is sandy and warm. H. M. O.

Hill City, Kan.

FROM NORTHERN ILLINOIS.—This is the garden of the world, taking everything into consideration. We raise all kinds of grain, in such an abundance that the price is very low, and every one that is willing to work can have plenty to eat, drink and wear. Nearly all kinds of fruits grow well here, except peaches. We have had a very warm winter. Cattle and all kinds of stock look well.

Walnut, Ill.

P. C. McD.

FROM IOWA.—Iowa is the best state in the Union. Come to Madison county, in the wonderful Blue-grass region, and see our deep, rich soil, our large stone quarries, our vast prairies, our solid corn, our mealy potatoes, our luscious fruits, our fine horses, cattle, swine and poultry. Macksburg is a thriving little village. If you are moving west, don't run past the good land. We have climate, but we don't have to eat it for dinner. J. C.

Macksburg, Iowa.

FROM OHIO.—Athens county has rich land, and is good for grazing. In this neighborhood we have gone into the peach business; one of my neighbors will have in the spring almost 4,000 trees set out. Last year he sold peaches at Athens which brought him \$1,500. He hauled to Athens, five miles distant, with one team, 120 bushels in a day, out of his orchard of 2,500 trees. Next spring thousands of trees will be set out in this neighborhood, as almost every farmer has a lot heeled in. Our part of the county is bound to boom, as the oil excitement is raging in our vicinity. E. A. W.

Grosvenor, Ohio.

FROM MICHIGAN.—In Ogemaw county (the "Peerless Atlas of the World" will show where it is situated) there are thousands of acres of wild land which are well timbered with beech, hard and soft maple, black and white ash, basswood, elm, birch, red oak, etc., which can be bought for \$4 per acre. The soil is good. We have no blizzards nor cyclones. We have plenty of good water and a healthy climate. There are readers of FARM AND FIRESIDE who have no home that, by a little industry, could have a home here of their own. The county has at present three railroads.

Churchill, Mich.

J. B. E.

FROM WISCONSIN.—Oconto county is situated in the north-eastern part of the state, and has a population of about 18,000. Oconto city has some of the largest saw-mills in the state. Here is a good place for a poor man to get a start. Woodlands range from \$1 to \$10 an acre; improved farm lands, \$20 to \$30. Good water can be had at the depth of twelve to twenty feet. If our crops fail, we can get work at good wages in the pine woods, or in the mines north of here. Wheat, oats, rye, barley, potatoes, corn, watermelons, apples and garden vegetables grow well here. Potatoes sell at 30 cents a bushel; butter, 20 cents a pound; oats, 30 cents per bushel. F. J. W.

Lena, Wis.

FROM SOUTH DAKOTA.—With a little more rainfall, this part of South Dakota would be a fine farming country. It is healthy, and has very fertile soil. Failure of crops, by drouth, in some localities north of here, has created some suffering this winter, but parties who have kept out of debt are all right. Most people came here with too great expectations, ran in debt for machinery, borrowed money at two or three per cent a month, expecting to pay it back after harvest. Drouth cut their harvest short, the three per cent man foreclosed, the sheriff sold their chattels, and they are left destitute. The southern part of South Dakota is all right. Land is advancing in price; good quarter sections are worth from \$1,200 to \$1,600. Ada, South Dakota. N. M. F.

FROM EASTERN KANSAS.—Almost all grains and grasses common to Ohio succeed well in some parts of Kansas. Clover, and all tame grasses, do well on my farm. Clover does exceptionally well. Where clover is a success, a farmer has a mighty force at his command. Clover means cheap manure, cheap pork, fat cattle, and increased yield of all grain crops. Miami county is a border county. Paola, the county-seat, is forty miles south of Kansas City, which, perhaps, is making the most rapid and substantial progress of any city in the West.

Experiments of the last two or three years seem to show that Kansas is going to succeed in making sugar in paying quantities from sorghum and beets. J. A. H.

Paola, Kansas.

FROM ALABAMA.—Cleburne county has rich, alluvial bottoms, which produces corn, wheat, oats, grasses, etc., and uplands for cotton and cereals, and is a fine farming country. The farmers are nearly out of debt. One more good crop will set the farmers up in this county. We have good schools the year around and churches of several denominations. There are a great many northern people in our county. It is rich in minerals, such as gold, silver and copper. The mines are worked in places and are turning out well. Cleburne county is not a cotton county, but it produces about four thousand bales per year. The Farmers' Alliance is a large organization, and it has done much good already. Land is cheap. The saw-mills are doing a large business. At Tallapoosa, Ga., they are putting up a cotton factory, an iron furnace and many other works. W. J. B.

Rosewood, Ala.

FROM WASHINGTON.—The majority of the people of the United States must look westward to look forward, while we of the north-west in "looking backward" turn our eyes to the East. After the Northern Pacific railroad was completed we literally stopped the mouths of gainsayers with our apples, pears, peaches—in short, our fruits, vegetables and grains, so that from saying that we could tell "whoppers," they were forced to admit that we could produce "whoppers." We no longer have to cut an apple or a pear in two, to satisfy an eastern man that it is not a pumpkin or a squash, painted so as to resemble fruit. California is justly noted for her climate; her people for their egotism. Dame Oregon still lulls her sleepy children upon her ample breast. In Washington, having completed the circuit of the earth, the star of empire has fixed her throne, to shine in splendor till the crack o' doom. North-westward, ho!

Dayton, Wash.

N. C.

WEST TENNESSEE.—The lands are thin, but can be easily reclaimed. We grow cotton, corn, wheat, oats, rye, potatoes, and fruits of all kinds. No country suits grasses better than this. Our climate is mild, and winters are hardly cold enough to justify winter clothing. No corn need be taken for cattle, as we have good grazing during the entire winter. I see but one drawback to this county—that is, the Negro. When they are gone, this will be the greatest country under the sun. Land is cheap as dirt here, and can be bought at a low price. I know of good land that can be bought for one crop. Everything is cheap here. We have good schools, good water, good climate, and the best people in the world. I do not think there is a man north of Mason and Dixon's line but could live here, and on as good terms as any man south of it. The people of the South are a whole-souled people, quick to get mad and as quick to forgive. No man would harbor hard feelings against them if he knew them well. H. S. S.

Somerville, Tenn.

FROM WEST VIRGINIA.—Randolph county is west of the Alleghenies, and is in the south-eastern part of the state. It contains 1,040 square miles, and is on the headwaters of the Tigris valley and the Big Cheat river. This county has some of the finest mountain scenery in the world. Here are the sinks where nature has formed a tunnel through the mountain, one mile in length and twenty-five to one hundred feet wide, beautifully arched over with limestone rocks, and a large creek goes silently through its course to the Ohio. The mountains vary in height, with beautiful, fertile valleys between, from one to three miles in width, with a fine atmosphere, and the finest water in the world. The main crops are wheat, corn, oats and buckwheat, which make a good average yield. Grasses grow in abundance, such as timothy, clover, red-top and blue grass. There are fine stone coal veins from three to twenty feet in thickness. The timber is walnut, cherry, ash, poplar, white oak, spruce and hemlock. Apples, peaches, pears, cherries and grapes do well. Blackberries and strawberries grow plentifully on the mountains. There is plenty of wild game, such as deer, black bear, wild turkey, pheasant and squirrel. The waters abound with speckled trout and bass. Land ranges from \$2.50 to \$100 per acre. I think emigrants who want homes in a good, healthy atmosphere would do well to come to Randolph county. A. W. H.

Beverly, W. Va.

FROM VIRGINIA.—Fauquier county is one of the most prosperous and populous counties in Virginia. It has an area of about 644 square miles, and produces large crops of wheat, corn, rye, oats, buckwheat, wool and other farm products, besides an abundance of apples, pears, peaches, plums, cherries and all small fruits. This county ranks second in the production of wheat and corn. Fauquier grazes and fattens on her famous Blue grass about 2,500 head of cattle, for Baltimore, Washington and Philadelphia markets. Warrenton, the county-seat, is a beautiful town of about 1,500 inhabitants, and is a convenient distance

from Washington City and Baltimore, and but twelve hours by rail from New York. Near here are situated the Fauquier White Sulphur Springs, which entertain from five hundred to one thousand guests every summer. This is a splendid place for poultry raising, either to supply home markets or to ship to Washington. This county is well supplied with railroads, churches and public schools, besides numerous academies and private schools. Land sells at from five to sixty dollars, according to improvements; and I know of no place where a man can get a home for as little money in an equable climate, free from malaria, epidemics, cyclones and blizzards. The mercury rarely reaches as low as zero, and there are but few days in the year in which outdoor work cannot be performed. This has been a mild winter, and many farmers have done plowing for spring crops. I. P. C.

Bealeton, Va.

FROM INDIANA.—Boone county is about thirty-five miles from the capital of the state, nearly due north. I have seen many parts of Indiana and Illinois, but none to compare with this section for miscellaneous farming; everything that can be raised in this latitude can be grown here. A man with five thousand dollars could not find a better place to invest his money than in Boone county. Corn, wheat and clover are the principal crops. The soil ranges from a light clay to a deep, black loam, with a sandy loam in the bottoms. The land was formerly covered with a heavy growth of poplar, sugar, walnut and burr-oak timber. Almost every swamp has been drained and every thicket cleared. We have the best free, gravel roads I ever saw. Our school-houses are all brick, and better ones than I have ever seen in any country outside of the towns. Churches are plenty, and of all denominations. Thoroughbred hogs are raised almost exclusively. There are six or seven breeders and shippers in this neighborhood. While other parts of the country are raising the cry of hard times, I seldom ever hear the word mentioned here. And I believe it is owing to the large amount of hogs and clover raised. All the corn that is raised is fed at home. Almost all the corn is cut up and the fodder fed to the cattle. We raise a great many horses and cattle. Good horses sell at from \$100 to \$200, right at home; good brood mares bring even more. Land is comparatively cheap, ranging from \$35 to \$75. Fruit does well, especially apples, plums, cherries and berries. Some of the finest sirup from sorghum is made here. It sold, wholesale, in the market for 40 and 50 cents. The land is generally level in this section, with just enough fall for good drainage. J. H. R.

Thorntown, Boone county, Ind.

FROM SOUTH-WEST IOWA.—This section of the "Hawkeye" state is becoming famous as the Blue-grass region of Iowa. Adair county is a rolling, fertile prairie with several streams flowing through it from north to south. Along the Nodaway and Middle rivers groves of native timber, such as oak, hickory, elm and basswood, extend the entire length of the county. The timber is sufficient to supply the county, yet a large portion of our people use coal as fuel, as it is cheap and less trouble than wood. The soil of Adair county is of a dark, sandy loam, and possesses all the fertility necessary to grow all kinds of grain, vegetables and fruit grown in the northern climate. In 1837, Iowa as a state gave less than an average of corn and small grain, but Adair and adjoining counties went beyond the average. For fourteen years there has not been a failure of the corn crop. I have spent part of each year for several years in other states throughout the middle and western states, and know for myself that Iowa is excelled by none in grazing and agricultural resources. Point to a time when the citizens of Iowa were obliged to ask for assistance on account of failure of crops. Home seekers can come to south-west Iowa and be sure of a good crop every year. Land is reasonably cheap here, ranging all the way from \$3 to \$40 per acre. Good, unimproved land may be had for \$10 per acre. Corn is cheaper here this winter than it has been for several years, being now worth 16 cents per bushel, while the average price is from 20 to 30 cents. Taking one year with another, wheat ranges from 60 cents to \$1; oats, 15 to 25 cents; rye, 75 cents to \$1.25; potatoes, 25 to 50 cents; onions, \$1; beans, \$2.50. Apples were a drug on the market last fall at 30 cents per bushel. Hogs are \$3.75 per 100 pounds; good horses are worth \$100 to \$150; milch cows, \$20 to \$35. Butter averages from 15 to 25 cents per pound; eggs are worth 22 cents; poultry, 7 cents per pound, gross. Corn yields from 50 to 80 bushels per acre; wheat, 15 to 25; oats from 30 to 50. Farm hands are paid from \$15 to \$20 per month. Our greatest drawback is the cold winters. If a person can satisfy himself with the climate here he need not look elsewhere for a place to build up a home. W. R. P.

Fontanelle, Iowa.

FROM TENNESSEE.—Tennessee is the smallest of the southern states except one, and ranks twenty-fourth in the Union with respect to size, and twelfth in population. Its area is 42,050 square miles, being 430 miles from east to west and 105 miles from north to south; it lies almost wholly in the Mississippi valley. The average elevation is about 600 feet. The prin-

cipal rivers are the Mississippi, Tennessee, and the Cumberland. The Tennessee is navigable to Knoxville in east Tennessee. The Cumberland is navigable to Nashville, and in high water throughout the state. The climate is both healthful and delightful. The mean temperature is 58° Fahrenheit. The average annual rainfall is about 50 inches. The prevailing winds are from the south and south-west.

Excellent iron ore, coal, copper, lead and zinc are found in many portions of the state. Marble of various kinds and colors, sandstone, limestone and granite abound in different localities. Several productive petroleum wells have been sunk in the state and mineral springs abound in all portions. About one half the state is forest. The native grasses are rich and nourishing and other nutritious grasses thrive. The forests are composed of ash, chestnut, black walnut, white walnut, oaks of the different kinds, elm, cottonwood, maple, hickory, poplar, locust, sycamore, gum and many others. Grapes grow spontaneously. Evergreens of different kinds are plentiful. Blackberries, strawberries, raspberries, huckleberries, and cranberries grow wild in profusion. Game, such as deer, foxes, raccoons, opossums, rabbits and squirrels, are plentiful throughout the state. Partridges, pheasants, wild turkeys, etc. are quite plentiful. Attention to the breeding and raising of domestic animals has not been fostered in this state as it should have been, but it is fast gaining ground.

Nashville became the capital of the state in 1826, and is a busy and thriving city of more than 40,000 inhabitants. Six great battles were fought within her borders, besides two hundred and ninety-two minor engagements during the civil war; but Tennessee, as a whole (in a sectional and partisan sense), has forgotten that her soil was ever stained with blood. She was the first of the seceded states admitted to the Union after the civil strife ended. The density of her population is thirty-seven to the square mile. The average size of farms is one hundred and twenty-five acres. Some of her products are as follows: Corn, 6,300,000 bushels; wheat, 7,330,000; oats, 5,000,000; sweet potatoes, 2,370,000; Irish potatoes, 1,350,000; tobacco, 30,000,000 pounds; wool, 2,000,000 pounds. Cotton, peanuts and a great variety of fruits are grown. Flour, meal, lumber, iron, steel, leather, packed meat, carriages, wagons of every description, cotton and woolen goods are among her manufactured articles, besides machine-shop products, amounting in the aggregate to \$40,000,000 annually. The mining products are about \$1,000,000 annually. The quarry products, chiefly marble, are about \$250,000.

The public schools give opportunity for free education to every inhabitant from six to twenty-one years of age, without regard to color; separate schools are provided for white and colored. The state has many noteworthy institutions of learning in addition to the public schools. We can't boast of any very large cities, but for thrift, enterprise, hospitality, generosity and vim I think our people will compare favorably with any other section of the Union.

I stated in the productions of the state that Tennessee produced annually about 30,000,000 pounds of tobacco, the greater portion of which is raised in Montgomery and adjoining counties immediately around Clarksville, which is a city of eight or ten thousand inhabitants, beautifully situated on the picturesque Cumberland, about sixty-five miles below Nashville, and on the Memphis branch of the Louisville and Nashville railroad, about one hundred and seventy-five miles from Louisville and two hundred miles from Memphis. Clarksville is surrounded by never-failing springs and innumerable creeks, which make it a fit abode for man, and a fine country for those wishing to engage in stock raising or milling. Improved farms can be bought for from \$10 to \$50 per acre, one payment cash, the balance on one, two and three years' time. With good churches and schools it is needless to say that society is good. Clarksville is within a few miles of inexhaustible ore beds of the finest quality, timber, stone and coal.

I regret to say, her people have heretofore had too much tobacco on the brain to possess that enterprise so essential in a manufacturing city. Had it not been for the expenditure of capital and interests in tobacco, she would have been to-day the peer of any manufacturing city in the South. Some of her most enterprising citizens are beginning to look beyond their hat brims and tobacco factories. A good agricultural region north, east, south and west immediately surround her, from which she can draw fresh and cheap supplies. Bring us capital mixed with enterprise, and she will soon blossom as the rose, and we promise you a hearty welcome and a good interest on your investment, a home among hospitable people. When passing around, just call at Clarksville, and inspect her and the surrounding country, and see the inducements offered. J. D. McC.

McAllister's Cross Roads, Tenn.

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Queries.

READ THIS NOTICE.

Questions from regular subscribers of FARM AND FIRESIDE, and relating to matters of general interest, will be answered in these columns free of charge. Queries desiring immediate replies, or asking information upon matters of personal interest only, should enclose stamps for return postage. The full name and post-office address of the inquirer should accompany each query, in order that we may answer by mail if necessary. Queries must be received at least two weeks before the date of the issue in which the answer is expected. Queries should not be written on paper containing matters of business, and should be written on one side of the paper only.

Hog Rings.—S. B. R., Nashville, N. C. You can get hog rings and ringers from Chambers, Bering, Quilman Co., Decatur, Ill.

Cement.—P. J., Leeds, N. Y. Cement of the finest quality is made by the Buckeye Portland Cement Works, Bellefontaine, Ohio.

Sorghum Cane.—G. W. S., Alum Creek, Ohio, writes: "Will some of the many readers of FARM AND FIRESIDE give their experience in the culture of sorghum cane? Will it pay to plant five or more acres? I have a second bottom that has been in meadow about six years. The soil is clay with a little gravel."

Manure for the Garden.—I. K., Underwood, Iowa, asks: "Which is the best for garden, horse, cow or hog manure, when clear and without litter?"

REPLY BY JOSEPH:—I would give the preference to clear horse manure, unless the three kinds could be well composted, in which case they would make a superior fertilizer. Yet I despise none of the three.

Fertilizer for Tobacco.—R. H. G., Pryorsburg, Ky., asks: "What is a good fertilizer for tobacco on worn-out land?"

REPLY BY JOSEPH:—Cotton-seed meal and cotton-seed hull ashes, half and half, would make a good fertilizer. So would tobacco dust and stems, if well composted. A complete high-grade fertilizer, with plenty of potash, is also excellent. Barn-yard compost, of course, is one of the best.

Straw for Horses.—C. F. S., Sugar Creek, Ohio, asks which is better as a substitute for hay in feeding horses, wheat or oat straw? Either will do if bright and clean. Oat straw is the better if it is bright and sweet, particularly if it has been cut a little green and cured properly. For grain you can use either corn or oats, with a little oil meal, which has a mild laxative effect, and which, by the way, is a preventive of colic. Cut feed is the better for being salted slightly.

Kaibit for Oats.—I. M. H., Pleasant Dale, W. Va., writes: "I can get kaibit for \$13 per ton. Am going to plant a field of red slate soil to oats. Will an application of kaibit be likely to pay?"

REPLY BY JOSEPH:—It is possible, but not probable. If the field is a clover sod it most likely has all the potash the oat crop may need, and the scant element, more probably, is phosphoric acid. At least, I put greater confidence in applications of dissolved bone or rock than in kaibit.

Harness Oil.—C. F. P., Chapman, Kan. Neatsfoot oil is perhaps the best. To one quart of neatsfoot oil you may add one quarter pound of tallow and a little lampblack. Heavy harness should be taken apart and carefully cleaned with warm water before oiling. Then, before it has thoroughly dried out, rub it with a woolen cloth saturated with oil. Or put the oil into a shallow pan over a very slow fire, and draw each piece through the warm oil, bending it backward and forward. Then rub the oil in with a woolen rag. Hang the harness up where it will not dry out too rapidly.

Improving Clay Soil.—A. J., Middletown, Ohio, writes: "Of what advantage is timothy to the soil in preparing it for grain crops and potatoes? I have a piece of rolling land, composed of clay with some sand, somewhat wet and cold. Corn, wheat and potatoes grow slow, fruit trees thrifty. What does this soil need to make it quick and productive?"

REPLY BY JOSEPH:—The timothy, if cut for hay, will take off a great deal of plant food, and leave very little in its roots and stubble for the succeeding crop. It does not help the land or the next crop as clover does. I think your "clay soil with some sand," above all things, needs underdrainage, and if possible, subsoiling. This will make the land drier, warmer, quicker and more productive. If more is needed, give nitrogenous manures, barn-yard manure being as good as anything I know of.

Natural Saltpetre.—W. T. C., Parksville, Ky., asks: "How much saltpetre will it be safe to apply per acre? I can get it here for about 50 cents per 100 pounds."

REPLY BY JOSEPH:—Pure saltpetre would be worth more than \$5 per 100 pounds for fertilizing purposes. It is very rich in potash, and has about 14 per cent of nitrogen. The saltpetre as you get it from the caves is probably very impure, and may not have more than 15 per cent of pure saltpetre. In which case 50 cents per 100 pounds would be a fair price. To make a complete fertilizer of it, bone or rock phosphate should also be applied. The question of quantity per acre depends altogether on the condition of the soil, and the crop to be grown. From 100 to 400 pounds of pure saltpetre would be a full dressing in any case.

Mending Rubber Boots.—T. S., South Charleston, Ohio. In reply to your query we republish the following: Get some virgin rubber of your druggist and also some patching. Put an ounce or two of the gum into three or four times its bulk of benzine, cork tightly and allow it to stand three or four days to dissolve. Wet the boot with benzine for an inch or more around the hole, and scrape with a knife. Repeat this several times until thoroughly cleaned, and a new surface exposed. Wet the cloth side of the patching with benzine and give one slight scraping, then apply with a knife a good coating of the dissolved rubber, both to the boot and the patch, and allow it to dry until it will not stick to your fingers, then apply the two surfaces and press or slightly hammer into as perfect compact as possible, and set away for a day or two before using.

Woodland Pasture Grasses.—N. L., Greenbrier, Mo., writes: "What kinds of grasses are best to sow on woodland for permanent pasture? Would all Bluegrass, which grows well here, be advisable, or would a mixture of Blue and other grasses be better? When would be the proper time for sowing? I have about thirty acres of woodland on creek bottom which I am now clearing of all underbrush, preparatory to seeding for permanent pasture."

REPLY:—It would be well to add orchard grass, and probably some red top, to the Bluegrass. If your timber is sufficiently open, this mixture will give you a good, permanent pasture in a few years. The orchard grass does

well in the shade and comes early in the spring; in these respects it is better than Bluegrass. But as the latter does well with you, sow it bountifully. Sow early in the spring.

Early Potatoes.—G. A. H., Herndon, Va., writes: "Which are the best extra early potatoes for this section? Early Rose has been our mainstay, but I would like to get an earlier kind."

REPLY BY JOSEPH:—Try Early Ohio and Early Sunrise, both seedlings of the Early Rose but a week or more earlier. The Early Ohio is a little more round than the other, but otherwise they look very much like their parent. There may be other extra early sorts fit for general cultivation for market purposes, but I have not yet found them. Early Ohio, besides having other good qualities, is one of the very best keepers among potatoes.

Plantain in the Lawn.—F. A. R., Sugar, Kan., says that plantain is choking out the Bluegrass in his dooryard and wishes to know how to get rid of it. Plantain in fields is killed by cultivation. As that is not practicable in a dooryard, he will have to adopt a more tedious method. Take an old chisel, about two inches wide, remove it from the handle, and insert it in an old fork handle about four feet long. Near the bottom attach a foot-step, making an implement like that shown in the illustration. With this he can cut off the roots of plantain, dock, etc., below the crown of the plant, by placing the edge near the plant at a little angle, pressing on the rest with the foot.

Seeding to Timothy.—Fred, Connellsville, Pa., writes: "We have a three-acre field which we wish to get in timothy. We propose to sow it to oats and alsike clover in March, plow the clover under in autumn and seed down with timothy and white clover. We have fourteen colonies of bees, and seeding to clover is in view of affording some pasture for the 'blessed bees,' and ultimately to get the timothy for our horse."

REPLY:—Alsike clover sown in March, with oats, would give very little bloom next summer. It would not pay you to sow alsike to plow under next fall. Your better plan would be to put your ground in extra fine order early this season, sow it in oats, and seed down with a mixture of four pounds of alsike clover and six quarts of timothy seed per acre. Then next year you will have a meadow that will furnish bloom for your bees and the very finest kind of hay for your horse. We cannot recommend too highly the mixture of alsike and timothy for a meadow. If you want bloom from alsike or any other clover the first year, you must prepare the ground as you would for oats, and sow it without the oats. If you do not sow the oats, the alsike and timothy sown this spring will, unless the season is unfavorable, give you bloom and a good cutting of hay next fall.

VETERINARY.

Conducted by Dr. H. J. Detmers, Veterinarian of the Ohio Agricultural Experiment Station, and Professor of Veterinary Surgery in Ohio State University.

To regular subscribers of FARM AND FIRESIDE, answers will be given through these columns free of charge. Where an immediate reply by mail is desired, the applicant should enclose a fee of one dollar, otherwise no attention will be paid to such a request. Inquiries should always contain the writer's full address. Queries must be received at least two weeks before the date of the issue in which the answer is expected. Subscribers may send their veterinary queries directly to Dr. H. J. DETMERS, 33 King Avenue, Columbus, Ohio.

Stringhalt.—J. S. L., Bake Oven, Oregon. There is no remedy for confirmed stringhalt.

Calked—Bruised Withers.—C. C. B., Bloomington, Ill. Your case requires the attention of a competent veterinarian, and since you have in Bloomington one of the best veterinarians in the state of Illinois, I advise you to call on him, and ask him to perform the necessary operation on your animal.

Wound—Sore Eyes.—J. N. K., Ramsay, Iowa. Keep the wounds clean, and dress them twice a day with some antiseptic, for instance, with a three per cent solution of pure carbolic acid, or with iodoform. Neither you nor anybody else can make hair grow on scar tissue. As to the sore eyes, I have to refer you to an article under the heading of "Epizootic Ophthalmia," in FARM AND FIRESIDE of Sept. 15th.

Chronic Lung Disease.—A. N. G., Conowingo, Md. It seems, from your description, that your horse is suffering from a chronic lung disease. If you cannot get a reliable veterinarian to examine the horse, ask your family physician to make a physical examination of the horse's chest by auscultation and percussion, and the result of such an examination will soon decide, not only whether my supposition is correct or not, but also what morbid changes are existing.

Weakness.—H. N., Potter, South Dakota. It is difficult to make out from your description the exact position in which your colt puts down its foot. If the anomaly you complain of is caused by mere weakness in the muscles, tendons and ligaments, judicious parging, done by somebody who is perfectly familiar with the mechanism of the horse's foot, and above all, sufficient quantities of good and nutritious food, will undoubtedly effect an improvement. If, however, the bones are bent or crooked, the case is a hopeless one.

Swelled Knee.—F. R. D., Cedar Rapids, Neb. I do not see how the hind knee could be damaged by a garden rake attached to the colt's tail. Do you, perhaps, mean the hock? If so, the spongy swelling you complain of is probably what is called a capped hock. If such is the case, a reduction may be effected by repeated applications, say, once every four days, of an ointment composed of biniodide of mercury one part, to lard sixteen parts; but if the enlargement is spongy, a perfect restoration to health is out of the question.

Mange.—F. D. H., Baseyville, N. Y. If your dog has mange, wash him first thoroughly with soap and warm water, and then, before he is perfectly dry, with a tobacco decoction, made of one part of good, strong tobacco to fifteen parts of water, and boil down to two thirds, so as to leave the proportions as 1:10. At the same time clean and disinfect his sleeping place, and repeat the same treatment on the sixth day. If you apply the wash each time in a thorough manner, you will succeed. If you do not, a third, and, may be, a fourth

wash will be necessary. Overheating has nothing to do with the disease. Your dog must have caught it from another mangy dog.

Too Fat.—A. D. B., Godfrey, Ill. I believe you are the first who ever complained about a pig being too fat; but probably you are right. I would advise you to give that pig all the exercise it is able to take, and then feed food that is rich in nitrogenous compounds and contains a sufficient amount of lime salts and of other mineral substances, for instance, oats, bran, etc., and avoid corn, corn meal and roots, etc. It will never do to starve a pig, rather sell it to a butcher. When green grass and clover are available, the pig may be allowed to run out in a pasture.

Grubs.—G. Y., St. Marys, Mo., and J. B., Bath, Ind. The "grubs" beneath the skin of cattle are the larvae of a fly, *Oestrus bovis*. The only safe way to remove them is to press them out with thumb and finger, and then, when they fall to the ground they should be killed, every one of them. If the small, round holes in the skin are not yet large enough, they may be enlarged with a penknife. There are several means of prevention. One is to keep the cattle away from the timber pasture, and from pastures enclosed by high hedges, in July and August, when the flies swarm and deposit their eggs. Another one is to have the cattle sleek and fat during the fly season, and a third to do like they do in Holland, that is, to put a thin, then blanket over each animal when in a pasture in which the flies are swarming.

Probably an Aneurism.—L. I. C., Fulton, Mont. If I understand you correctly, your horse commences to get lame or weak in its hind leg only when exercised, and the lameness or weakness increases if the exercise is continued. If such is the case, your horse, probably, has an aneurism in one of the large branches of the posterior aorta, which interferes with the free circulation of the blood in that branch. The latter may be either the crural or the hypogastric artery. As long as the animal is at rest, the supply of blood to the left hind leg is sufficient, but it becomes insufficient as soon as the horse is exercised, and that the more so the severer the exercise, or the longer the same is continued. There is no remedy. Time, possibly, may effect some improvement, but there is no certainty about it.

A Partial Luxation of the Cervical Vertebrae.—A. N. B., Rock Valley, Iowa, writes: "I have a colt that got cast a few weeks ago, and while down got his head against the wall, so that it bent his neck in bow-shape. How will we proceed to make him straighten his neck?"

ANSWER:—If the luxation is only a slight one, or if the crook in the neck is simply the result of an overstraining and morbid relaxation of the muscles and ligaments on the convex side, no attempts to make a reposition are necessary, and even if they were it is too late now. Therefore, apply to the convex side, say once every four or five days, but not more than three times in all, a fly blister, of which the composition has been given in another place in this issue, and give the animal time. It, very likely, will turn out all right in a few months or half a year.

Disordered Digestion.—J. L. R., Stephen, Minn., writes: "Over a month ago my mare took a colic, and would neither eat nor drink. After she got over the colic she would take bad spells, without any pain, seemingly, but would not eat nor drink. She would belch wind, and a frothy phlegm would gather in her mouth and she would spit it out at times. She has been bound up ever since she took the trouble and would only get a passage every two or three days."

ANSWER:—Your mare, undoubtedly, suffers from a disordered digestion, but whether the same has been brought on by the medicine you have given, whether some of the intestinal arteries are closed by embolism, or whether some morbid organic change, or a stone, hair-ball, worms, etc., partially obstruct the intestinal canal, I cannot decide without an examination and without knowing all that has happened. I therefore have to advise you to have the mare examined by a competent veterinarian.

A Partial Dislocation of the Patella.—A. J. Y., Haw Patch, Ind., writes: "I have a mare colt coming two years old in the spring, that comes from the barn after being in all night, dragging her right hind leg. Sometimes her left one is affected, but not so much, nor as frequently. After she travels some she will 'catch' quick and jerk it, similar to a stringhalt, then in a short time she will walk along all right."

ANSWER:—Your colt seems to suffer from a partial dislocation of the patella. I would advise you to keep the animal quiet and at rest in the stable, and apply below the kneecap and on both sides of the joint, but not above, once every four days, a good fly blister, prepared by heating one part of caustic potash and four parts of olive oil for one hour in a water-bath, and then straining it. Your druggist will prepare it for you. If the dislocation should take place every time the animal gets up and down, you may have to keep the same standing for a week or so.

Heaves—Scabs on Cow.—J. L. W., Taylor, Mo. Notwithstanding that you seem to be of different opinion, your mare, according to your description, is afflicted with "heaves." If your fodder is dusty or moldy, it is injurious, and must not be fed. Good, clean and bright oat straw, a sufficient quantity of oats and corn, occasionally a bran mash, and, if you have them, some carrots, turnips, etc., constitute the proper food for such an animal. Small quantities of good, bright prairie hay may also be given, but timothy and clover hay must not be fed. Besides that, the stable must be kept clean, be well ventilated, and not be crowded. If you comply with the above your mare, of course, will not be cured, but will breathe easier and be comfortable. I can hardly advise you in regard to your cow, because that is a case which requires careful examination, and besides that, you do not say anything about the cause or causes. Still, you may soften and clean off the scabs with soap and warm water, and then apply a wash of a two per cent solution of carbolic acid. It is doubtful, though, whether this treatment, which you may repeat after five or six days, will have any effect upon the already degenerated skin.

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Our Fireside.

IN THE WALTZ.

At last in my arms I held my queen,
As, whirling and circling to and fro,
We heard, as we threaded the waltzers between,
The glorious music ebb and flow.

I could feel her heart, like a bird imprisoned,
Against my breast through her corsage heat,
As I held her close in the waltz and listened—
To the maddening music and pattering feet.

As we whirled and circled about the room,
My senses swooned with the joy and bliss;
My soul seemed drunk with her breath's perfume,
And I pressed on a vagrant tress a kiss.

I saw a flash in my rival's eye
As I kissed the tress as it fanned my cheek,
And I said to myself as I heard her sigh,
"Now or never—this moment speak."

I bent my head 'til it touched the glory
Of golden hair that encrowned her head,
And there in the waltz I told the story
That shall yet be new when the world is dead.

There in the waltz I won my treasure,
Full in the ball-room's glare and heat,
Whirling swift through the waltz's measure,
Keeping time to the music's beat.

As I looked in her eyes, brimming o'er like a river,
I clasped her close, for I knew I had won;
And then, with a blare and a crash and shi
The music ended—the waltz was done.

A Bartered Birthright.

BY JAMES FRANKLIN FITTS.

CHAPTER IX.



HERE is no such panic as that of men and women fearful for the safety of their money. Not the wild rush of a beaten army from the field, not the singing of a multitude around a tall building wrapped in smoke and flame when imperiled life is inside, is so determined, so full of mad resolution; nor is any panic so quickly commenced.

The very air was filled with flying rumors of disaster to the bank. From the moment that two men standing on the corner told two others of the embarrassment of the bank over their deposits, and hinted their fears that something was wrong, the story went up and down the street, into the public places, through the shops, the mills, the factories, all over Scioga, as though it had been winged. What was known was repeated again and again, with startling and highly-colored exaggerations. The cry was abroad, "Save your deposits!" Workmen in their shirt-sleeves, men with paper caps and leather aprons, dropped their work and pressed and elbowed for admission to the teller's counter; even women pushed and struggled for place.

The police were there in sufficient numbers, but there was nothing for them to do. They might as well have attempted to make a dry path across the river as to keep that sidewalk clear. It was an orderly crowd, save as it heaved, and throbbed, and sent up a low, fierce murmur. There was no violence yet; the people could wait a while to get their money; there were no threats. Only a bare-armed Hercules from the furnace said, looking up at the high front of the "Barkley:"

"They say it's fire-proof."

"Yes."

"But I say, if the poor little earnings of us folk don't come back through that hole there, that house comes down!"

The "Security" had always invited deposits, paying as much interest on them as the savings bank, and the popularity of the institution and the high character of its officers had for years recommended it to all classes as a safe place for their surplus, large or small. No bank in Scioga was in a situation to be so damaged by a "run" as this one.

Up to three o'clock the excitement had hardly abated. Nothing else was talked of in the town; and a thousand idlers and curiosity-seekers swelled the crowd in the street and increased the agitation.

Some of the directors and other substantial men of business went about, talking, arguing, striving to allay the panic. Most prominent was Mr. Barkley, mounted upon the bank counter, looking down over the lattice at the crowd and haranguing them in his homely, earnest way while he flourished a ruler in his hand.

"You needn't be the least bit skeered. Take your money, if you want it, there's lots more where it comes from. We've telegraphed to Chicago for a cool hundred thousand in specie and currency; it'll be here to-morrow. What's all this fuss about, anyway? Come to me, and I'll guarantee your books and certificates, if you want it. Ain't Norm Barkley worth half a million yet? D'y'e think I'll stand by and see the "Security" suffer—or you either?"

"Where's the book-keeper, Uncle Norm?" somebody sang out from the crowd.

"I don't know—nor care. The bank is good for every dollar he's stole."

"Where's Skelton's money—and the Porcupine bonds?"

"Skelton is goin' to be paid to-morrow; every cent, and interest. He's satisfied; what are you makin' a row about? Them bonds shall be paid for at full value. I'll have you fellows know that there's stuff in old Barkley yet."

The crowd laughed; some who had no deposits cried "Good!" and applauded; but the work at the teller's counter went steadily on, the press was as great as ever. The afternoon papers came out with a very brief account of the "run," and assured the public that there was no adequate cause for it; that the "Security" would experience no embarrassment. Still, it was observed and generally commented upon, that the teller's window was closed promptly at three o'clock, the announcement being made, "We will resume to-morrow, as usual."

It was generally known that a meeting of the board of directors was held that night, and there was great curiosity and interest felt to know what had happened in their locked parlor. As soon as Scioga was astir the next morning, new rumors and more startling ones traversed the street. It was asserted that the board waited long for the cashier, Mr. Newbold; that he did not attend the meeting, and could not be found. At ten o'clock the "Security" was not open. An angry roar came from the crowd as they read a placard just hung out: "Closed three days for examination."

CHAPTER X.

OUTLAWED AND PURSUED.



R. Newbold had remained in and about the bank during the stormy scenes described in the last chapter. He had at times joined his efforts to those of the men outside who were trying to satisfy the crowd that there was no occasion for alarm. At three o'clock he was in his place, and participated in the hurried consultation at which it was resolved to put the books in the hands of an expert over night, and to hold a directors' meeting at seven o'clock. It was an anxious, troubled

ntes, Vi," he said. "Don't detain me; I'm in great haste. There's to be a meeting of the board at seven, and I'm to be there."

He paused midway of the stairs. A thought occurred to him.

"Vi, go to the door and see if anybody is skulking around in front."

She went, looked out, and reported.

"There is an ill-looking man on the other side of the street, in the shadow of the trees. He is watching this house."

Newbold hurried upstairs. "Curse him!" he muttered. "He'll never lay eyes on me again."

Violetta rang for dinner to be served. She was quietly rejoiced that her father was still with her, that he was coming down to dine with her, and would meet the directors in the evening. He had said nothing this time about flight or exposure. She had a momentary relief from her miserable fears.

Half an hour passed, he did not come. She went to the stairs and listened. She heard nothing.

She went up and tapped softly at his door. "Father," she asked, "are you not ready?"

There was no answer. She tried the door; it was locked.

The thought of self-destruction flashed upon her. He might be in that room now, dead from poison or dying from the razor.

She flew down the stairs to summon help. She looked out at the front door again; nobody was in sight but some children playing, and that ill-looking man hanging about under the trees.

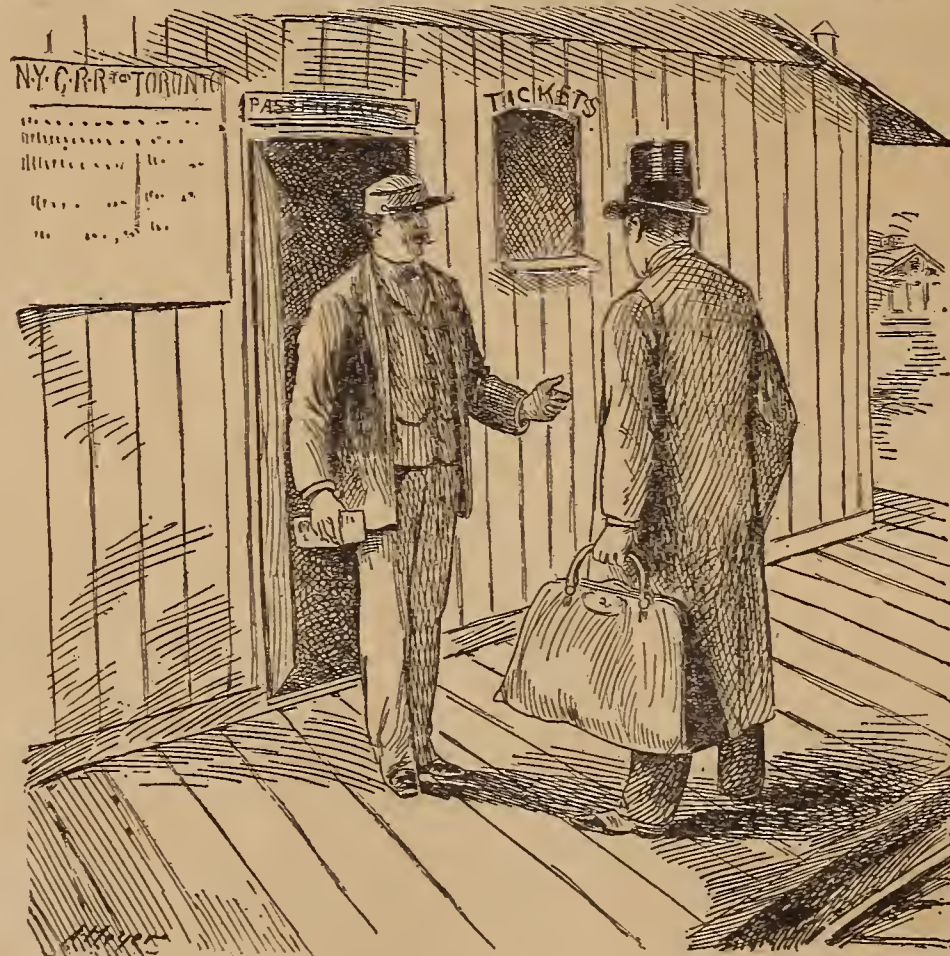
She wildly beckoned him to come over. "Oh, come in and help me, sir!" she cried. "I am afraid something is the matter with my poor father."

She could not know how gladly Saul Budd accepted that invitation. She was too agitated to remember a certain statement in her mother's letter; perhaps in this strait she could not have heeded it, had she remembered it.

She told the man briefly and tearfully that her father had gone upstairs to his room, promising to come down to dinner in a few minutes. He had not come; she had sought him; his door was locked; he would not answer.

"I wonder if the fellow has taken the short cut," was Budd's reflection.

"There is no time to stand on ceremony,



"DID YOU COME ON THIS TRAIN, SIR?"

time for everybody connected with the "Security," but compliments were not wanting for the cashier. All turned hopefully to him.

"You're a first-class feller, Newby," said the president, slapping him on the back. "You've been doin' good work out in front there, among those heatheus. I know you'll stick to us like wax. Be sure and come to the meeting at seven o'clock."

"Yes," observed a director, "Mr. Newbold's experience and his skill, and his character with the public, will be worth everything to us in this crisis."

It was four o'clock when he was free. He avoided the crowd, taking a wide circuit to escape it, and entered his house in a leisurely and deliberate way.

Violetta met him in the hall. Her eyes were red with weeping, but a glad smile came to her face when she saw him.

After the interview of the night before, the man had thrown off the character of the affectionate father. He would not resume it now; he was intent upon his own safety. He stifled his feelings, and put away the offered kiss. He spoke to her with a lying tongue.

"I'll be down to dine with you in a few min-

miss," he said. "If it's as you fear, we must get to him post-haste, or we'll be too late. Bring me an axe, and I'll break in."

With a few vigorous blows the door was torn from its fastenings.

Budd afterwards minutely described the appearance of the room and its belongings. He examined everything.

The clothes that Carson Newbold wore that day were scattered on the carpet.

Drawers of the bureau had been taken out and left on the bed. They were empty—except that in the larger one a piece of paper was found, which, on examination, proved to be a five-dollar note. A gold piece was also discovered. On the floor were strings and wrappings, evidently taken from packages of papers.

This was all. There was not a scrap of writing to Vi—to anybody. He had gone in falsehood and secrecy. But how?

Saul Budd saw that the girl was distressed by these discoveries, and a happy idea occurred to him.

"I won't trouble you any more, miss," he said. "Your father's gone off somewhere. Please show me down the back way."

She complied, hurrying thence to her chamber to be alone with her grief. She had no parent now!

Budd found the cook and a domestic in the kitchen.

"I'm an officer," he said. "I'm looking for a man. Who's been through here lately?"

Neither of the women had quite got over the excitement and fright of an incident that had happened a little while before. An old man, all stooped over, with green spectacles, white beard, shabby clothes, a stick and a large satchel, had come hobbling down the back stairs. The women were so surprised that they could say nothing; they could only huddle together in fright. The old man took no notice of them; he limped out into the yard; but the domestic, following at a distance, saw him climb over the back fence and disappear.

From this point we may follow him a short distance, ere we meet him further on in his flight.

It was afterward proved that such a person was seen to be making his way out of town that evening. That at seven o'clock he entered an accommodation train at a way-station four miles from Scioga, rode to the next station, some ten miles off, and there left the cars. From this point his track was lost for a time, to be discovered later, at a distance.

Saul Budd hurried to the bank, big with the news. He had valuable intelligence to sell, and was eager to make his market. The time was only a little past six, but in the feverish state of mind several of the directors were already there. He obtained an entrance and attention, and at once offered to produce evidence that would satisfy them who the thief was, for one thousand dollars. No threats or entreaties could move him from this position. "I have information that you can't do without," he said. "I've worked hard to get it, and you must pay for it." The chief of police was consulted. "The fellow is disreputable, but sharp," he said. "He's all business. He's probably got something to tell that is worth money to you." Finally, a compromise was made; Budd was to receive five hundred dollars down, and as much more if the information should lead to the detection of the criminal.

He told his story, sparing no details of it. Men who had known and honored Carson Newbold for years, and who would have trusted him as a brother, heard the shameful story.

The silence of dismay fell upon that meeting as Budd told of the gaming-room, the blackmailing, the disguised flight.

"My God," exclaimed Mr. Barkley, "it can't be true! Newby a liar, a hypocrite, a thief! I'd sooner suspect myself."

The Scioga papers of the following day gave two columns to these astounding revelations. The details of Carson Newbold's crimes and his protracted and successful efforts to conceal them were read with amazement. No man in business circles had seemed so unlikely to fall as he; and the news produced a painful shock. It was stated that the bonds intrusted to the keeping of the bank, which he had abstracted, were valued at one hundred thousand dollars; that it was believed he had negotiated some of them at the East; that he had embezzled special deposits to the amount of thirty thousand, and that by an adroit system of forgeries on the books, which none but an expert and one acquainted with every detail of the business could accomplish, he had been able to absorb about twenty thousand more of the cash without suspicion. It was said by some of the would-be wits that these forgeries required leisure and secrecy of operation, and they asserted that the only time when Newbold could possibly have made them was on Sabbath night, after church. The papers further stated that the decamping book-keeper was probably a confederate of Newbold to some extent, although it was impossible at present to determine the exact truth. The family of the defaulter was spoken of with tenderness and consideration; his only child and daughter, the accomplished and beautiful Miss Violetta, was making her home at present with her aunt, a half sister of Mr. Newbold. To his wife it was feared that this news would come with stunning effect. That devoted and lovable woman had started for the Catskills only two days before. The papers also stated that every effort was being made for the apprehension of Newbold.

Those efforts began before the meeting of the directors adjourned. Both chief of police and sheriff went actively to work. Telegrams of warning were dispatched that night to Detroit, to Buffalo, and to New York. Six officers left town immediately for different points on the Canada frontier. A hot pursuit was on foot.

CHAPTER XI.

FOR LIBERTY.

The early express on the Lake Shore road rolled into the great station at Buffalo on time, with six sleepers and three coaches. Two detectives stood at the entrance of the waiting-room, and scanned the crowd of passengers as they made their way out to the street. The telegrams in their pockets indicated that the man for whose capture ten thousand dollars reward was offered by the Security bank of Scioga was certainly

on this train. Their information was exact; he was disguised as an old man with shabby clothes, green glasses, a white beard, and an assumed limp. They felt sure of him. He carried a satchel full of plunder.

But they did not find him. The five hundred passengers filed through the doorway so slowly that they had ample time to examine every face and form. When they were all past, the detectives had nothing for their pains but an elderly German whom they had detained at a venture, and whose indignant jabbering of the Suabian patois and powerful odor of bad tobacco sufficiently proved him beyond suspicion.

The flock of travelers gained the street outside, and were dissolved and mingled with the throngs of the city. A trim-looking gentleman with eye-glass, tall drab hat, light flannel suit, long duster, and new leather satchel, stepped nimbly along Exchange street, crossed Main, and stopped at a small station on the Terrace. He looked much like a college professor, a canvasser for a cyclopedia, or even a clergyman on a vacation.

Many people were waiting here to go down



"TAKE YOUR MONEY, IF YOU WANT IT."

to Niagara Falls, and this man purchased a ticket for that point. The train soon came and departed, bearing him away with the others.

As he looked from the car-window at the swift-gliding panorama of meadows, woods, pleasant country places, and the majestic sweep of the great river toward its awful tumult below, his thoughts were very active. The exercise of keen wit had saved him so far from detention or arrest. The misdirected ability that had during months enabled the cashier of the "Security" to carry on a large system of frauds and speculations undetected, had also enabled him to anticipate the prompt and extensive telegraphing that would follow his flight, the discovery of his disguise from the house-servants, and the ambush which the officers of the law, stimulated by a great hope of reward, would spread for him at certain points of his escape. Hence we find him now, with the haven of rest and safety that remains to the embezzler, the defaulter, and "boodler," in sight, with his dangerous disguise thrown off, traveling in just that way which, after all that had happened, would be most likely to baffle the officers—as himself!

He was still thinking, deeply and closely. This part of the country was well known to him; he had in past years traveled this way on pleasure, and on the business of the bank. When the train stopped at Black Rock, and again at Tonawanda, the sight of the river and the Canadian shore tempted him to leave the car, and try to gain immediate safety. He hesitated, he dared not make the attempt at those places. There were established steam-ferries there, where everybody crossed; he knew that more officers were on watch there for him. He realized the power of that wonderful agency in the hands of justice, the electric telegraph. He had employed it often enough himself to understand what it might accomplish, even in a desperate case. Already, he reflected, the failure of the Buffalo officers had been reported at Scioga; already new clues, possibly the discovery of the discarded disguise, had reached Buffalo and gone on ahead of him down the river. Things like that had happened before; they might in his case. And where other fugitive criminals often fail in relaxing caution and cunning when the goal is in sight, this man was not to be found wanting. He was cunning to the last.

The train neared Niagara Falls. He had never intended to go there; he knew that redoubled detective vigilance would be armed for his arrest in that situation. At the hamlet of La Salle, six miles above, a moment's stop was made, and here the hunted man left the train.

He strolled along the platform, looking at the well-shaded houses on the quiet street on one side, and the great width of the brimming river on the other, the islands far over, and the Canada line lying hazy beyond. The ticket-agent came out of his office with a telegram in his hand. He cast a glance at Newbold, a sharp, quick look, and paused. He tried to look unconcerned—but failed.

"Did you come on this train, sir?" he asked. "No," replied the other, thinking and an-

swering in a breath, and with perfect composure. "I have been staying a week with my family a mile up the river, and walked down to take the train to the Falls. I just missed it, and must wait for the next. When will it leave?"

"Eleven twenty-five, sir. Walk into the waiting-room, and I'll be back in a moment and get you the morning paper." The agent spoke briskly, even eagerly. Mr. Newbold understood him as well as though he had said, "I want to find you here when I come back." He entered the station, looked out of the window, and saw the agent turning his head over his shoulder as he walked, to be sure that his request had been complied with.

The fugitive waited one minute. He conjectured where the man was going with that telegram, he conjectured its contents. Leaving the station by an opposite door, he ran around a large railroad shed, keeping out of sight as much as possible, and paused in the shelter of the opposite side. He cast one longing, eager glance at the river. A tug was puffing up against the current, towing some logs that had broken loose from a boom above; two sail-boats were skimming over to Navy Island, and a row-boat with a party of fishermen was in mid-stream. He knew there was no regular ferry here, and he dared not go down to the water and take the chance of finding a boat. He knew that he was already practically discovered; to stay two minutes longer in the village, failing to find the means to get across the river or away, would be certain capture.

Another plan swiftly presented itself. He peered out from behind the shed up the track; the ticket-agent had not yet reappeared. Mr. Newbold darted over the rails, jumped a fence, crossed a field and plunged into a strip of timber.

Emerging from this in a few minutes, he crossed a corn field, and found himself clear of the village. Climbing another fence, he entered a broad highway, and walked northerly at a rapid pace.

For half a mile or more he went on as fast as he could walk. He passed haymakers at work in the fields, and once met a vehicle conveying a man and woman to La Salle, who looked at him with some attention. A little further on he came to a comfortable farmhouse with a large barn, the proprietor of which was in the barn-yard, in his shirt-sleeves, salting his stock.

Mr. Newbold walked up to him, and spoke in quick, crisp sentences.

"You've got a horse and buggy?"

The farmer had no lack of horses and vehicles; but the unexpected question surprised him to silence.

"Speak—quick!"

"Why, of course. What—"

"You know the way to Lewiston?"

"You do, anyway," replied the farmer, recovering his wits. "You're going right along it."

"I live in Buffalo; my wife is at the point of death in Toronto. I came down on the train this morning, stepped off at La Salle, and got left. I must get to Lewiston in time for the eleven o'clock boat. Hitch up and take me down, and I'll give you ten dollars."

The farmer eyed his visitor, was surprised and thoughtful and said nothing.

"Twenty dollars," said Mr. Newbold, urgently.

"It's a dreadful busy season," objected the man. "Hayin's backward, and —"

"Thirty dollars!"

"I'll do it. Can't go myself, but I'll send my boy."

"Hurry!"

"I will; but you'll have a close time to catch that boat."

In spite of Newbold's constant urgings, the farmer proceeded to "hitch up" with the nt-



SAUL BUDD'S IMPOSITION ON THE DOMESTICS.

most deliberation. He had not been in a hurry himself for thirty years; and though he could sympathize with the afflicted gentleman's desire for haste, especially after the promised reward had been transferred to his pocket, his leisurely habits of action were not to be suddenly dismissed. Fifteen precious minutes had passed before the fugitive was seated in the buggy with his leather bag on his knees.

The horse was a fair traveler, and the man and his driver went along at a steady pace

over the old "Military Road," where two hundred years before the Chevalier De La Salle had portaged his supplies around the great cataract, to build the first vessel afloat on the upper lakes. The boy made a remark or two; the man was silent.

He threw over the buggy-top, and looked back.

"Are there any fast horses at La Salle?" he suddenly asked.

"Yes. Some real fast. The constable has got a team of blacks can go in less'n four minutes."

"Drive faster."

Some miles were passed in silence. The boy told afterward how the gentleman kept looking back, as if expecting pursuit, and how his hands worked nervously on his satchel.

"How far now to the top of the mountain ridge?" he asked.

"About two miles."

He looked back again. For nearly a mile behind the road was level and straight. He saw a rapidly moving object in the distance. It was coming—coming fast. There were horses. The boy looked back, and uttered an exclamation.

"Them's the constable's blacks."

Newbold snatched the lines from his hand,



THE RACE FOR LIFE.

and laid on the whip. The horse broke into a wild gallop; the terrified boy clung to the side as the buggy bounded along. Laborers in the fields by the roadside, women and children in the doorways and by the gates, looked on in fright as that flying apparition went by.

Another glance backward, and it was seen that the pursuers were gaining.

"They'll catch you 'fore you get to the landing," the boy whined. "You'd better stop."

But Mr. Newbold had no intention of going to the steamboat-landing. The long arm of the telegraph could reach him there; the message had, an hour ago, flown from La Salle. He had one last, desperate chance; all the details of it were arranged in his mind as he continued to lay on the whip and shout to the maddened, foaming horse.

The road curved; they dashed out upon the summit of the mountain ridge.

The driver turned the animal up against the fence to stop him suddenly, and sprang out, grasping his satchel. He took in the whole magnificent panorama at one glance, and remembered with a dull throb of the heart how, ten years before, when he and his wife and Violetta were at Niagara Falls, they had ridden down here in a carriage to enjoy this view. He saw the broad, smooth mirror of Ontario lying but seven miles off; the wide river at the left winding down smoothly to it; the large expanse of field and forest, over which the shadows of the summer clouds chased each other; the village nestling in sleepy, rural beauty below; the highway reaching out in a great curve, gradually descending the height and making a semi-circle down to the landing, where he saw the smoke of the steamboat—he saw it all at once, and saw but one possible way of escape.

The river lay to the left; he could reach it far above the landing by skirting the village; it was a full mile off, and for a good part of the distance the way was hard and rough. From the top of the ridge was a steep descent of five hundred feet, rocky, filled with wild vines and underbrush, difficult and laborious to traverse, even with deliberation. Without hesitation, Newbold went over the summit and disappeared.

In three minutes a pair of black horses dashed up with a light wagon, and two men jumped out. They found the boy standing by his panting, trembling animal, looking at a broken wheel.

"Where's that man?" they shouted.

He pointed over the ridge. Far down its side, near the base, they saw a figure struggling through the brush.

They followed, leaving their horses with the boy.

[To be continued.]

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Our Household.

THE LEGEND OF THE LILY.

ANNIE WALL.

Once, when this grand, old earth was young,
An angel thought to bring,
From earth's fair fields a blossom sweet
To offer to his King.

He wandered o'er the fertile fields,
He gazed on blossoms bright,
Too bright they seemed for his desire,
Too gay to please his sight.

"Oh, for a pure, white flow'r," he sighed,
"Fit for my King to wear."
Though long he sought, no flow'r of white
Was blooming anywhere.

So, worn and weary, he sat down
To weep that none were found,
His crystal tears flowed o'er his robe
And sank into the ground.

At once a lily white sprang up,
All pure, his gaze to meet;
Singing, he gathered it and flew
And laid it at God's feet.

Pleased was his King. "This flow'r," he said,
"Because of this shall grow,
Henceforth, a sign to sinful man,
O'er all the earth below."

Thus came the lily, pure and fair;
Who looks may read this sign
In its white cup, the angel's tears,
The purity divine.

Pueblo, Col.

HOME TOPICS.

BEDS AND BED MAKING.—Not many years ago no girl thought she was ready to be married until she had one or two large, duffy feather beds; now we seldom see one unless it be on grandma's bed, who, having slept on feathers all her life, cannot think of giving them up now. If a feather bed is used, it is a good plan to have a slip cover for it, which can be taken off when soiled and replaced by a clean one. These slip covers are also nice for a mattress.

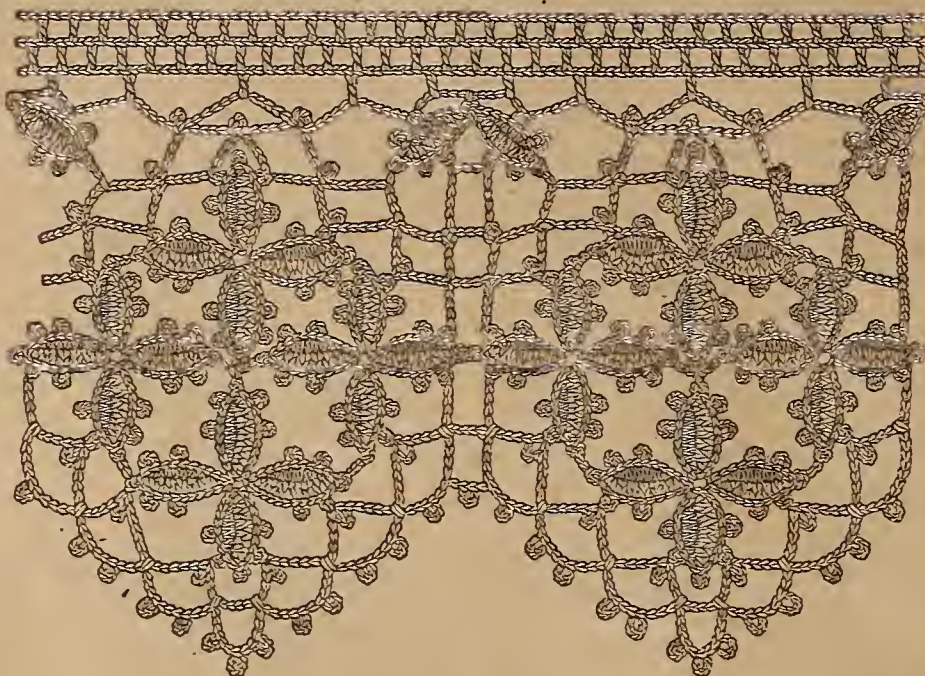
It seems to me that the ideal bed is any one of several kinds of good spring beds, with a good hair mattress; over the mattress a thick, white blanket and then the sheets, with blankets enough for warmth. The outside covering for the bed may be anything that suits the taste of the occupant, but I confess to being old-fashioned enough to prefer a white spread to any other.

The use of sheets is to keep the bed and other bed-clothes clean, and the under sheet should always be put on with the wrong side down and tucked in all around the mattress, then put on the other sheet with the wrong side up, so the two right sides will come together. Let the upper sheet come just to the headboard of the bed and leave the extra length to tuck in at the foot. Put on the blankets and spread so they will come about six inches from the head, and turn the top sheet over them, tuck all in well at the foot and sides, and the bed is ready for the pillows. If one is always careful to put the sheets on with the right sides together, the clean sides will always come next the other bedding. This is one of the first things to teach little girls about bed making.

It used to be the rule in every well-ordered household that all the beds should be made very soon after they were vacated in the morning. When we think that all

the windows of their rooms before they leave it in the morning. At least two hours should be allowed for the bed to air before it is made.

KEEP A NOTE-BOOK.—It takes but little time to write down a sentence or two in a note-book, and it will often save a great deal of time and worry. Frequently, if one tries to burden her memory with all the multitudinous duties which devolve upon the housekeeper, something which it was important to have done at a certain time will be forgotten. The habit of keeping a note-book would prevent this.



BORDER IN IRISH POINT LACE.

One may have, as they should, a place for everything and everything in its place, yet it is hard to remember, sometimes, where each particular place is, especially of things that are only used once or twice a year. A few words in a note-book would save many an hour of search, besides the worry of not being able to put your hand on the thing just when it is wanted.

TOO MUCH BRIC-A-BRAC.—There is a strong tendency to fill our houses too full of bric-a-brac, or, as a certain housemaid called it, "break-your-back," and also of furniture and fancy work; tidies, scarfs, etc., are put on everything upon which they can possibly be placed, until there is danger of disarranging something if one stirs. It is a pleasure to look at pretty things, but when they interfere with comfort the pleasure is doubtful. I have been in parlors where the tidies were such delicate pieces of hand painting and lace that no one dare rest their head against them. Ottomans and foot-rests covered with such dainty material and upon which so much time had evidently been spent in the adornment, that the most careless would never think of placing a foot upon them, although the motto, in delicate tracery, reads, "Rest thy weary feet." No sunlight must enter these parlors to fade the delicate colors, and one hesitates to take a step for fear of stumbling over a cushion, upsetting an easel with its picture and drapery, or knocking down some frail vase or bit of painted china from bracket or hook.

Then the thought of the time and strength which must go to the dusting and rearranging of all these things, too frail and precious to be trusted in the hands of any one but the owner. It makes one tired to even think of it. A lady told me only a few days ago that she spent four hours dusting her parlor and putting things in

their place after the sweeping was done. A room so filled with fancy work, pictures, ceramics, etc., that it looks more like a bazar than a part of a home, lacks at least one element of beauty, fitness. Let us make home beautiful, but be very careful not to sacrifice comfort or burden ourselves with too many unnecessary cares.

MAIDA McL.

See our offer of 4 Great Books on page 194.

BORDER IN IRISH POINT CROCHET.

This pattern consists of a large star formed of four small stars for each scallop, joined together by a groundwork of chain stitches and purls.

For the star, make a ch of 9, on this work 9 dc on the other side of the ch, 2 double, 2 tr, 1 double tr, 2 tr, 2 double, making a picot of 5 at the double tr and second double; 3 double in top st with picot on the second, then 8 double, taking both front and back threads of the st, with picots at the first and fourth. Repeat this 3 times, and fasten off to first; this forms one small star.

A LITTLE GIRL'S WARDROBE.

The time has come around again to consider Nina's summer wardrobe. The little mite has grown in every direction, it seems, since she put off these clothes. What shall be done with what is left? I try them on; all that are entirely too small I quietly lay to one side to give away. I can always find plenty for them. Some of the hems can be let down; if the sleeves are worn they can be cut out, and the neck cut low and round, finished with an embroidered edge, and be worn with a guimpe.

I propose to make two silk guimpes, one of pongee, which comes at fifty cents a yard, and will wash like cotton; this she can wear with some of her dark dresses in which the sleeves are worn and must be cut out. Another I shall make of a dark blue silk with a Persian stripe, which I was fortunate enough to pick up at the bargain counter. This she can often wear with a white dress, or her check silk. The check silk I shall make up with white embroidery as trimming. I saw one last summer that was very pretty.

I find tan a good wearing color, as when it soils it seems to go all over alike, and afterwards will color very nicely; so I got some of this in cashmere to make over a very dark plaid. This will be a cool day dress. In a changeable climate this is very necessary.

Nina is a delicate child, and for the benefit of some mother who may have one like her, let me say that she wears flannel of very light weight the year around, and cashmere hosiery. She has fewer ailments than all her little associates, who are much more robust.

I think so many colds can be traced to cotton stockings and the dropping of flannel too early in the season.

Three pair of cashmere hose, bought in the fall, last her the year. We keep one

pair entirely for dress wear. To finish out the winter, I shall make her four new aprons, two white and two of the fine forty-cent ginghams, that you can buy now for thirty and twenty-five. These stand the wear and washing so much better than the cheap ones. A cheap grade shrinks very badly, so that if you use it you must make the garment much too large, to allow for shrinking.

Did you ever use Turkish toweling for summer undershirts? Try it. You will like it. Trim with lace ruffled on, and do not starch them.

I will keep on with my suggestions in another article, as this is getting too long.

CHRISTIE IRVING.

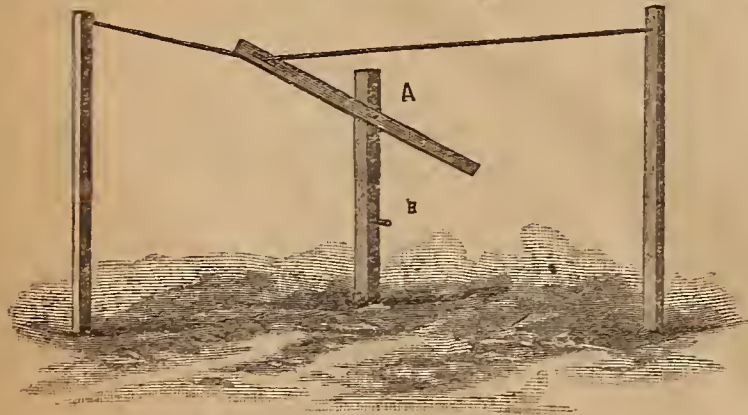
SACHET FOR STOCKINGS.

This is made of colored India silk, lined with white silk or satin, and consists of a straight piece, open the full length, trimmed with lace, and drawn in at each end like a cracker, with ribbon. Bands of ribbon are tied at intervals in bows; those at the ends are fastened permanently as they are not to be untied. Any preferred sachet powder can be used.

ONE WOMAN'S LIFE.

BY LIZZIE BLUE.

Abigail Stebbins was a girl who had what New Englanders call "faculty." I call it making the best of yourself and things around you. I never saw her in a close corner from which she could not extricate herself and come out of her difficulties with flying colors. Such people always challenge my admiration; they ought really to be generals. She had her share of trouble, but came out of the furnace of affliction with no smell of fire on her garments. Yes, indeed, she had her romance, too, for what woman has not? Admirers sought her hand, while she faintly would have said "yes" to one, but stern



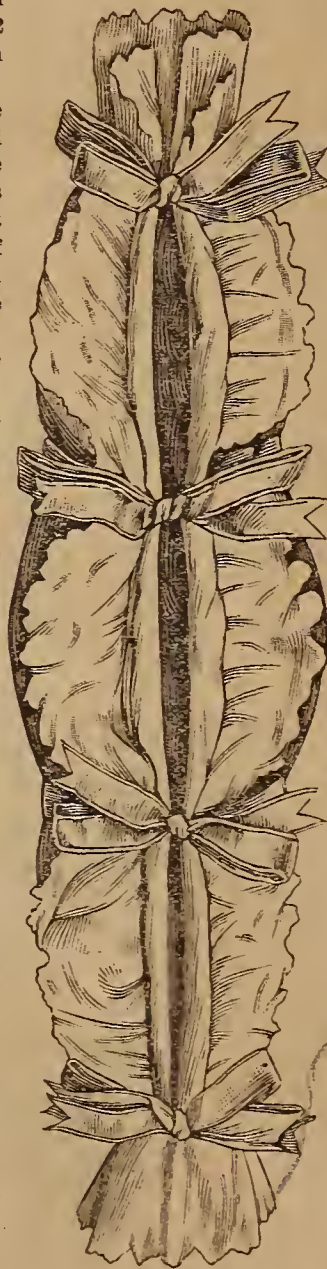
CLOTHES-LINE HOIST.

night long exhalations are passing off from the bodies of the sleepers and being absorbed by the bed-clothes, we can see how necessary it is to have the beds well aired and, if possible, exposed to the purifying influence of sunshine before they are made up. Every member of the family should be taught to set a chair at the foot of the bed, turn the clothes down over it, lay the pillows on another chair and open

CLOTHES-LINE HOIST.

DEAR HOUSEHOLD:—I send you a sketch of a clothes-line hoist which my wife finds very convenient. The center post has a lever, which is secured by a bolt at A, and is held in position by a loose pin, or bolt, at B, when line is in use. By this arrangement the old, forked pole is done away with. The lever is always at hand and not lying around in the dirt, ready to soil all of the clothes that come in contact with it. It is better to set the center post a little out of line, as it tightens the clothes-line more than when in a line with the other two. I have never seen anything like it in your columns. I just made ours last month, and it is the only one I know of at present.

M. L. C.



SACHET FOR STOCKINGS.

duty bade her say "no." Her mother begged her to give him up and stay at home with her and keep the hearthstone bright. She consented.

These two joyous young people parted forever, one glorious June night, at Fleming's Forge. Abbie went home sorrowfully to their cottage on the mountain. The night-bird sang a requiem over their shattered hopes. The poor girl looked back at him as he stood leaning sadly on the meadow bars in the misty moonlight.

No one ever heard her sigh over what "might have been." She and her mother lived pleasantly, and as Abbie said, "economy" was always their watchword.

It always seems like a piece of injustice to me to see how parents often selfishly use up the life of a devoted daughter because she happens to be single. Is it any more a daughter's place to give her strength and youth and beauty than a son's?

"A well-dressed girl" she was always called, and it all came from being a good Yankee manager. Her silk dress cost much planning. It was paid for in "drips." Silks were quite cheap in those days, but money was accordingly hard to get. Once she boarded some civil engineers who were surveying a route through that region. Then she sold pork, lard, tallow, cucumbers, pie plant, soap, berries, chickens, eggs, butter, and finally made the last payment by tending a motherless child for a few weeks for a compensation. Dear Abbie was not above doing anything that was honest. Her poor, little memorandum book was a pitiful revelation to me.

After awhile her mother died. Then the little home was sold, for the brothers and sisters all wanted their shares. They had the grace, however, to abide by the will and let "our Abigail" have the most.

She went to a little settlement down at the Shoals to learn the tailor's trade. Here she lived with their good, old, Universalist preacher and worked for her board. This pretty girl was known in this rural neighborhood as "the mountain pink."

Life was pleasant here. The old fortune teller's prediction was coming true.

Here she met, as she thought, her fate. A traveling doctor saw this blooming young woman, and after a short acquaintance, sought her hand in marriage. He was accepted promptly, with a heart full of love. Occasionally he came that way. She was glad to hear, through this man, of the stories of busy, rushing life in the cities whose gayeties she was yet to enjoy. His comings grew less frequent and his letters less prompt. One day, as her busy needle flew back and forth, she noticed that her engagement ring had suddenly become tarnished. It was good gold, and why the cause? Months went by, and she recalled a legend she had read. It said that when a lover grew faithless his ring would lose its bright color. This lover never came. The Universalist preacher wrote to a brother minister in the town where Abbie's lover lived, and learned, alas, the truth. At the time—the day and hour—this ring changed its color, this man was being married to another. Abbie did not grow bitter, but developed into a self-supporting woman, and said, "It may be for the best."

This simple story of one woman's life is repeated often. It teaches a lesson that is not hard to understand. The world is full of disappointed Abigails, who submit patiently to whatever life brings, be it weal or woe. They do not grow morbid and fly at fate. In her poor, little journal I found these lines, that unlock the character of this woman: "Miserable, look within; distracted, look around; happy, look up."

A PRETTY BREAKFAST DISH.

Cut cold toast into squares or rounds. If it is buttered toast, so much the better; if not, butter it with cooking butter. Lay a ring of tomato on this, and some flakes of cold, cooked codfish on the top; cover with a plentiful supply of parsley sauce, put it into the oven to warm, and serve hot. The dish is very economical, and serves to use up any stale bread, toast or fish and sauce which may not be sufficient to present at table a second time. Garnish with parsley and lemon rings.

BUGS, MILDEW, STAINS.

Cockroaches and water-bugs can be destroyed with a mixture of chloride of lime and sweetened water, or with pulverized borax scattered freely wherever the insects appear.

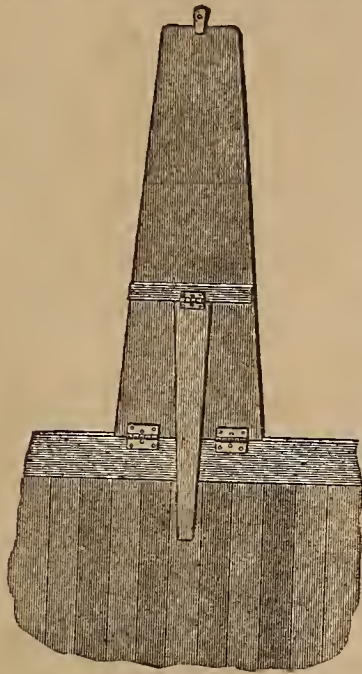
To remove mildew, make a carefully strained solution of a quart of water and a heaping teaspoonful of chloride of lime. Keep dipping the mildewed article into the solution until the spots disappear; then rinse thoroughly in clear water.

Tea stains can be removed by pouring boiling water through the fabric.

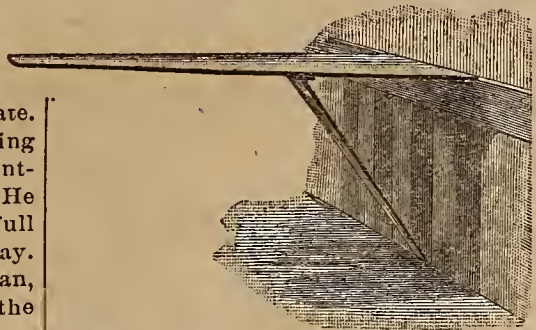
Mosquitoes may be kept away by sponging the body with a diluted extract of pennyroyal, which also allays the pain of their bites.

IRONING-BOARD.

This is an article usually in the way. I will give the "Household" readers an idea



on making a stationary article which has given great satisfaction. It is screwed to the wainscoting about thirty inches from



the floor, or any desired height by making the brace accordingly. I hope it may benefit some of your readers. L. H.

RAG CARPET.

Our FARM AND FIRESIDE came last evening, and my attention was attracted to the article on rag carpets as one that I have been thinking about for some time.

So many of the young housekeepers ridicule the idea of a rag carpet, saying they would rather have a bare floor than fuss with rags. Also, that it does not pay. I know all about it, sisters; "bin thar;" but time works wonders in a person's ideas, and ninety yards of nice rag carpet in the last two years testifies to a change of opinion in my case, at least. The actual expense out, was twenty-five cents per yard. It took one and one fourth pounds of rags for a yard, and one pound of warp wove three yards of carpet. The price of weaving was from fourteen to sixteen cents a yard, according to width; some was over a yard wide. The weaver did my coloring for two dollars for the ninety yards, and I paid for the coloring material. Most of the rags were sewed on the machine, as Sister Renan suggests, and it is such a rapid way to dispose of them. Here is an important item—don't wait until you have got to have a carpet "right away, quick," before you commence to hunt up rags, and thus make the work a bugbear to the whole family, with so much muss and hurry. That, also, takes away lots of profit when other necessary work has to be put aside or hired done. Again, I believe it is injurious to one's lungs to be filled and choked up with the dust and lint that is unavoidable in a big "carpet bee," lasting for several weeks, where, if a little

were done at odd moments in the cutting and tearing, there would not be enough dust at one time to affect the most delicate person. Again, where garments are washed, and the best portions torn right up into rags in a few days, there will not be so much dust, anyway; there has been no chance for it to collect. Commence a year or two beforehand; have some tight, paper flour-sacks hung in some clean, dry place where they will not be in the way. One sack for hit and miss, one for the dark blue print now so much worn, another for light blue gingham and shirting, and, perhaps, still one more for the black or brown rags. Now, don't say this is too much fussing for a cent. Was there anything worthy of note ever done yet that did not take a little trouble in the preparation? It is a great deal harder to explain the matter clearly, than the actual following of the suggestions.

When a garment has served its time as wearing apparel, wash clean, dry and soon tear out the good carpet rags and put them into the sack where a similar color is kept. Keep the sacks tied up, so that dust will not collect on the rags, and if there is much flannel in them and they are to be kept through the summer, drop a small chunk of camphor gum in the sack to keep out the moths.

When cutting out a new garment, or even when patching, put all the pieces in a pan or basket, and when through work, cut all those which are not of a suitable size to lay away into carpet rags and put in the hit-and-miss sack. You will be surprised how fast that one fills up. The old adage that drops of water constantly falling will wear away the rock, is very applicable in this case in a reverse order—little bits at a time will eventually make a carpet, and you will be wondering, some fine day, when you ever found time to cut so many rags. Sew them on the machine; it's quick work after a little practice, especially if there is a small child who likes no better fun than to cut the strips from each other after sewing. Of course, the child must be old enough to be trusted with scissors or knife. They are dangerous playthings for babies, and should, under no consideration, be allowed in the little one's possession. Old sheets and pillowcases can be left until the last, for they take no more room folded away in a bureau than when torn up and kept in a sack, and it is such short work disposing of those articles.

Do not color any more than you can help. When buying new print, have an eye to a futuro carpet and buy something you think will hold its color, whether it be black, blue, red, gray, brown, green or yellow, etc.

Our last carpet has been very much admired by all who have seen it. The warp is brown and white. Four threads of brown, then thirteen threads of brown and white alternating (7 threads of the white and 6 of the brown), then 4 brown, then the 13 alternating threads of white and brown, etc. The rag striping is thus:

- 10 rows gray (flannel and waterproof shirts),
- 6 rows black (pants and coats),
- 14 rows hit and miss,
- 4 rows dark blue (calico),
- 8 rows light brown or japonica,
- 8 rows shaded green, lightest shade next to the brown,
- 8 rows shaded red, lightest color next the green,
- 2 rows white,
- 2 rows purple,
- Then the white, red, green, brown, blue, hit and miss, black and gray, etc.

Another bright carpet for a bed-room is made of brown warp and

- 9 rows dark brown rags,
- 6 rows light brown,
- 8 rows hit and miss,
- 2 rows yellow,
- 4 rows dark blue,
- 4 rows light blue,
- 4 rows dark brown,
- 6 rows shaded red, darkest color to the brown,
- 4 rows green,
- 4 rows black,
- 8 rows shaded red, lightest color to the black,
- 1 row brown and white twisted,
- 2 rows white,

Then one twisted of brown and white, then shaded red, black, green, shaded red, brown, light blue, dark blue, yellow, hit and miss, light brown, etc.

One more has fewer colors and is quite pretty:

- 34 rows hit and miss,
- 4 rows dark blue,
- 6 rows light blue,
- 4 rows yellow,
- 4 rows green,
- 4 rows brown,
- 5 rows red,
- 2 rows dark blue,

Then the red, brown, green, yellow, light blue, dark blue and hit and miss.

Really, I fear our editor will think we have rag carpet on the brain, if our article is not cut short. I hope the girls that change their minds will be as pleased at the result as we were. The most of our rags were cotton, except for some of the red, black and gray. Think it wears better than woolen rags, and it looks full as well if you have colors that will not fade. Cotton makes a smoother looking carpet, and I know it is more durable. Don't put old, nearly threadbare rags into a carpet; it won't pay. Good warp, good rags, good sewing and good weaving will pay interest on the investment every time.

Gypsy.

CLEANING WHITE KIDS.

Some of the finest kid and satin shoes for ladies sold in the big apartment houses of New York are made by a French shoemaker. He was asked how he cleaned the delicate white and suede gloves he was showing to the writer. "With benzine and bread crumbs" was the reply. "There is nothing that will do it so nicely, but care must be taken in doing this. A woolen rag is the best for the purpose. It is dipped in benzine and then allowed to become almost dry. When it is simply damp it is just right. With the aid of bread crumbs you can now take off almost any stain or dirt on these shoes, except, of course, ink marks."—Boots and Shoes Weekly.

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Our Household.

A VARIETY OF WAYS FOR COOKING VEAL.

Veal, like mutton, is one of the resources of the farmer's household, and can be served in such a variety of ways as to make it always appetizing. Veal is best from a calf from four to eight weeks old. The meat should be clear and firm, and the fat white. The hind quarter is always the choice part. It is usually divided into the loin and the leg. The breast of veal is very nice for roasting. Veal, when properly cooked, is very delicate.

VEAL CUTLETS.—Dust the cutlets with salt and pepper, dip them in beaten egg then in grated cracker, and fry slowly in hot butter. Serve on a hot dish with melted butter poured over. Garnish with water cresses and sliced lemon.

BROILED VEAL STEAKS.—Lay steaks on a greased gridiron and broil over clear coals until brown on both sides. Make mushroom gravy and pour over. Season the steaks with salt and pepper.

VEAL CHOPS.—Lay in a pan, cover with hot water, and simmer until tender. Take from the pan, dry, dip in beaten egg and pounded crackers, lay in a shallow pan, and set in the oven to brown.

ROAST VEAL.—Take the breast, rub well with pepper, salt and butter; dredge with flour, and put in a pan with a pint of boiling water, a slice of fat bacon, with a little minced onion and thyme. Set in a hot oven, baste often and cook done. Take the meat up and thicken the gravy with mashed potatoes.

STUFFED VEAL.—Take a loin of veal, make a dressing the same as for a turkey, fill the fat with it, and secure firmly on the loin; rub the roast over with salt, pepper and butter, put in a pan with a little hot water, baste frequently, and let cook done. Serve with brown gravy.

ROAST FILLET OF VEAL.—Take the bone out of the joint, and make a deep incision between the fillet and the saddle. Fill it with a forcemeat of veal stuffing. Bind the veal up in a round form, and fasten with skewers and twine. Cover the veal with buttered paper, and put in a moderate oven. Roast with melted butter, and allow two hours for a six-pound fillet. When done, take up, pour over melted butter and brown gravy.

FRICANDELLES OF VEAL.—Put a teacup of sweet milk with half a cup of stale bread crumbs on to boil until thick and smooth. Chop a pound of raw veal very fine and add to the bread; season with salt, pepper and butter, and set aside to cool. When cold, form in little balls, dip in beaten egg and fry brown in hot butter. When done, take up carefully, make brown gravy, put the fricandelles in, cover, and let simmer one hour. When done, season the gravy with Worcester-shire sauce, and serve.

PATE DE VEAL.—Take four pounds of veal and a slice of fat bacon and stew with a little water; season with salt and pepper. When done, cut the meat in pieces. Boil four eggs hard, slice them and chop some parsley and thyme over. Take a large, deep pan, cover the bottom with slices of the hard-boiled egg, then add the veal and bacon, with more egg and veal alternately until the pan is filled. Pour over a pint of gravy, set in a cold place for ten hours, turn out, slice and serve with lettuce.

VEAL LOAF.—Chop three pounds of loin of veal and one of salt pork; roll a dozen crackers, mix with three eggs, pepper and salt and add to the veal; mix all well together and make in a loaf, sprinkle with grated crackers, and bake slowly for one hour. Slice and eat cold.

MINCED VEAL.—Cut some slices of cold veal into small bits, mix with the meat gravy and a little boiling water. Season with pepper, salt, a little walnut catsup, French mustard and pepper-sauce; add a grated lemon, and let simmer half an hour; mix a tablespoonful of butter and two of flour together smoothly and stir in with half a teacup of cream; let boil five minutes. Serve hot, garnished with fresh toast.

Croquettes, rissoles, patties and salad may all be made of cold veal, and will be found appetizing and acceptable.

ELIZA R. PARKER.

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Our Sunday Afternoon.

MY LEGACY.

They told me I was heir; I turned in haste
And ran to seek my treasure,
And wondered as I ran how it was placed;
If I should find a measure
Of gold, or if the titles of fair lands
And houses would be laid within my hands.

I journeyed many roads; I knocked at gates;
I spoke to each wayfarer
I met, and said, "A heritage awaits
Me. Art not thou the bearer
Of news? Some message sent to me whereby
I learn which way my new possessions lie?"

Some asked me in naught lay beyond their
door;
Some smiled and would not tarry,
But said that men were just behind who bore
More gold than I could carry;
And so the morn, the noon, the day, were
spent,
While empty handed up and down I went.

At last one cried whose face I could not see
As through the mists he hasted,
'Poor child! What evil ones have hindered
thee,
Till this whole day is wasted?
Hath no one told thee that thou art joint heir
With one named Christ, who waits the goods
to share?"

The one named Christ I sought for many days
In many places vainly;
I heard men name his name in many ways;
I saw his temples plainly;
But they who named him most gave me no
sign

To find him by or prove the heirship mine.
And when at last I stood before his face,
I knew him by no token
Save subtle air of joy which filled the place.
Our greeting was not spoken;
In solemn silence I received my share,
Kneeling before my brother and "joint heir."

My share! No deed of house or spreading
lands,
As I had dreamed; no measure
Heaped up with gold; my elder brother's
hands

Had never held such treasure.
Foxes have holes, and birds in nests are fed;
My brother had not where to lay his head.

My share! The right, like him, to know all
pain

Which hearts are made for knowing,
The right to find in loss the surest gain;
To reap my joy from sowing
In bitter tears; the right, with him, to keep
A watch by day and night with all who weep.

My share! To-day men call it grief and
death;

I see the joy and life to-morrow;
I thank our Father with my every breath
For this sweet legacy of sorrow;
And through my tears I call to each "joint
heir
With Christ," make haste to ask him for thy
share.

—Helen Hunt Jackson.

EVOKE THE BEST TALENT IN THE CHILD.

NEARLY every child is endowed
by nature with a faculty or ap-
titude for some special work,
varying as the temperaments
and individualities differ in each member
of the family. It is here where the fine
discernment and discriminating judg-
ment of the parents should be exercised
to evoke the best talent, to encourage and
foster its manifestation by every means
calculated to bring it to perfection. Is it
musical ability? Then see to it that
patient drudgery of daily practice is
honestly performed, not alone by oral
command, but by personal supervision,
for it is natural for children to shirk labor.
The rule applies to boy or girl indiffer-
ently. Whatever the bent—even if opposed
to your own preferences—if decided talent
or skill is evinced, cultivate it in a prac-
tical manner for contingent practical
necessities. Teach your children some-
thing, and teach it well and to the utmost
limit of his or her capacity.—*Rural Cal-
ifornian.*

Deserving Confidence.—There is no article
which so richly deserves the entire confidence
of the community as BROWN'S BRONCHIAL
TROCHES. Those suffering from Asthmatic
and Bronchial Diseases, Coughs and Colds
should try them. They are universally con-
sidered superior to all other articles used for
similar purposes. The late Rev. Henry Ward
Beecher said of them: "I have never changed
my mind respecting them from the first, ex-
cept I think yet better of that which I began
by thinking well of. I have also commended
them to friends, and they have proved ex-
tremely serviceable."

PLEASING GOD.

Pleasing God—what a privilege, what
an unspeakable pleasure! It is a great joy
to feel that we please him whom we love
above all other beings and objects. Oh,
to please him. What a glorious state of
mind. No jarring of interests now, no
contention, and the heart in complete
harmony with God—his will the rule of
thought and action. How pleasantly
every work and duty of life moves when
in such a state. Temptations are easily
overcome, and trials borne with patience
and resignation. Life has now become a
joy, and is prized as an inestimable gift
for doing good and blessing the world.
The apostle exhorts thus: "We beseech
you, brethren, and exhort you by the
Lord Jesus, that as ye have received of us
how ye ought to walk and to please God,
so ye should abound more and more."
Are we following the exhortation of the
apostle in every act of life? Are we
abounding in pleasing God more and
more? If so, we have found, with all the
men of grace, "glory begun below." Let
this be the great motto of life—to please
God in everything.—*Zion's Herald.*

THE RESURRECTION.

The resurrection of the body is among
the assured certainties of the heavenly
world; and this is necessary to the full
realization of all the believer's anticipa-
tions. This is the crowning glory of the
redemption scheme; this was the key-
stone of the the gospel arch. The resur-
rection of Christ is the proof, the pledge
and the pattern of the resurrection of the
righteous. Jesus has gone to heaven with
his own resurrection body, a "glorious
body," and St. Paul, in comforting the
saints concerning their deceased friends,
says: "If we believe that Jesus died and
rose again, them also that sleep in Jesus
will God bring with him." "For the
Lord himself shall descend from heaven
with a shout, and the dead in Christ shall
rise," and those of the saints "which are
alive and remain unto the coming of the
Lord" "shall be changed in a moment, in
the twinkling of an eye," and "be caught
up together," and with the risen dead
"meet the Lord in the air, and so be ever
with the Lord."—*W. Reddy, D. D.*

PROPHECY FULFILLED.

Near by was Chorazin and Bethsaida,
and it was in these cities and in this
vicinity that "most of His mighty works
were done." Alas, how changed—how
fallen—how ruined! It is difficult to con-
ceive a more gloomy desolation and utter
ruin than has settled down upon these
places. I inquired for the site of Chorazin
and Bethsaida, and none could tell me
where they stood! I climbed upon the
fragment of a broken column, and looked
inquiringly about me. Was this beauti-
ful shore once ornamented with populous
cities? Where now this oppressive silence
reigns, was there once heard the hum of
multitudes of voices and the tumult of
gathering crowds? Why, then, has this
utter ruin and desolation settled down
upon the land? I opened my Bible and
the mystery was solved. "Then began
He to upbraid the cities wherein most of
his mighty works were done, because
they repented not. Woe unto thee, Chor-
azin! woe unto thee, Bethsaida!"—*N. Y.
Independent.*

THE SAVIOR.

What a Savior. How wonderfully
constituted. He was God, as it was neces-
sary he should be; and yet not merely
God, but man, too. A Savior with two
natures; one reaching up to God, the
other down to us. How wonderful that
he should not only have taken our nature
but come down to our condition, and
surrounded himself with our circum-
stances—become subject to such tempta-
tions as we are subject to. Oh, what a
Savior! Why, he knows from experi-
ence what pain is; he has had the trials
I have; he has been through this vale of
tears; he knows how I am tried; he wept
over the very city and people whose souls
and hands were about to be stained with
his blood. I wonder I love him so little;
I wonder he is not more precious to me; I
wonder any should be offended in him.
How can he appear a root out of a dry
ground? Why don't all see his form and
comeliness?—*Nevins.*

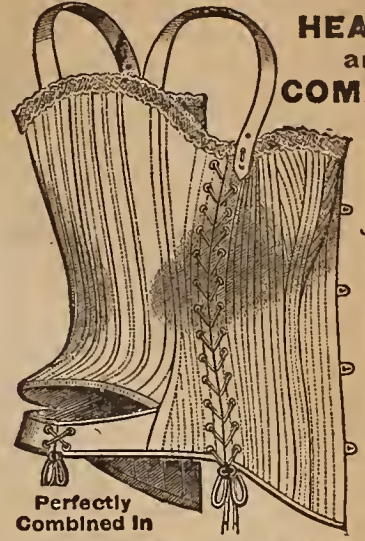


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Our Farm.

FLOWERS, BEAUTIFUL YET EASILY GROWN.

BY JOSEPH.

HOUSE PLANTS.—The average farm-house at the North has little if any room for wintering plants. Here and there the attempt is made to give sitting-room or kitchen a more cheerful appearance by means of a few geraniums, heliotropes, fuchsias, or in rarer cases, of a primrose or two, etc., placed in a light window. The success in most instances is anything but brilliant, and the flowers anything but attractive. One of the chief obstacles to window-plant culture in many farm-houses, is lack of opportunity to maintain a reasonably even temperature in the house during the severe winter weather, especially at night. The wood fire towards morning gets pretty low, and a little touch of the low temperature outside is only too apt to force its way through cracks and crevices into the room, to the destruction or injury of the good woman's pets.

I believe in house plants. The presence of thrifty plants is a benefit in more than one respect. Their influence is nothing if not wholesome. They make the air purer and sweeter. Fragrance is in itself a disinfectant. They add an air of comfort to the room which is absent without them. They relieve the monotony of winter life and cheer all the members of the family. In short, they are a gleam of sunlight itself. Every farm-house, to secure these manifold benefits, sanitary and otherwise, should have a bay-window, and a coal stove in the room, in case it can be afforded. Then let the good woman have the plants she desires, beginning with the hardier ones, those most easily cared for, the geraniums, fuchsias, heliotropes, ivies, some hardy bulbs, etc. The more tender ones, and those requiring more care, the callas, the begonias, the pelargoniums, the primroses, etc., to be added as experience is gained.

Provide perfect drainage for the pots; use good potting soil (rotted turf mixed with a little sand and old, fine, cow manure); water thoroughly, but not over-frequently; air in mild weather, and keep the plants in good bush form by cutting back.

HARDY ANNUALS.—What are the people going to do, however, who have no opportunity to keep house plants? Absence of the latter leaves a blank, an unsatisfied yearning in the minds of wife and children, and to gladden their hearts, flowers must be grown, if not in winter, at least in summer. First of all, plant a few hardy rose bushes, lilacs and other hardy perennial shrubs to give a supply of flowers in their season, and without much care and fussing.

But this is not sufficient. There are plenty of flowers that are easily grown from seed in spring, yield flowers in plenty during a longer or shorter period, then die in the fall, to be reproduced from seed the following year. A few others will live through the winter without or with little protection, and again give us a season of bloom. In short, there is no need of any family that has a square yard of land, or a little strip of border to spare, going without a constant supply of fine flowers during almost the entire season. And what a display can be produced with very little effort or expense! Think of the brilliant masses of verbenas, of phloxes, of asters, of pinks, etc. Think of the honeyed sweetness of mignonette, of sweet peas, etc.

The beginner who wants a list of the choicest and most easily-grown hardy annuals and biennials, may select the following ten; namely, morning glory, candy tuft, sweet peas, poppy, phlox drummondii, mignonette, larkspur, Chinese pinks, nasturtiums, and pansy. If he desires still more, let him add double flowering hollyhock, sweet alyssum, everlasting flower (helichrysum), ten-weeks-stock and marigold.

All these can be sown in early spring directly in open border, in well-prepared soil, covering say one half inch deep, except morning glory and sweet peas, which should be planted considerably deeper. Firm the soil well over the seed. Morning glory is a rampant growing climber, and excellent for covering porches, fences, stumps, or unsightly objects. The seed may be sown early in a box in a protected situation, or under glass, and afterwards set into the ground, box and all, where wanted. Sweet peas have also great climbing propensities, and should be given support, so they can twine about strings, wires or brush. They will then give a great abundance of fine, fragrant blossoms of all sorts of colors.

Almost all the named flowers may be started early in boxes under glass, or in the house, and successfully transplanted, if carefully handled. This is a good way with hollyhock, pansy, perhaps also with phlox and ten-weeks-stock; but the rest of them I would rather plant directly into the border where wanted.

Seed of most of them is cheap, and may be bought of mixed colors. A lot of poppies, introduced last season, among them Mikado and Fairy Blush, however, were so very brilliant and unique, that I desire to have them again in my garden next year. The Star of Quedlinburg phlox, introduced last year, is also unique, but the old mixed varieties will make fully as fine a display, and give entire satisfaction.

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Headquarters of the MOYER, the Earliest, Best, Reliable Red Grape. Also SMALL FRUITS, TREES, etc. 8 sample vines mailed for 15 cents. Illust. descriptive Price List free. LEWIS ROESCH, FREONIA, N. Y.

SEEDS \$2.50 WORTH FOR ONLY 50 CENTS. 30 Regular size packets new and choice sorts of our fresh warranted Seeds. Henderson's Bush Lima Beans, delicious and great bearer; New Diamond Winter Cabbage, large, solid, sure-header; Burlington Hybrid Sweet Corn, early, delicious, mammoth size; Chicago Pickle Cucumber, best for pickles; Beantiful Golden Self-Blanching Celery, blanches itself; Defiance Summer Lettuce, large, crisp, tender, desirable; Emerald Gem Musk Melon, sweetest, luscious flavor; Green and Gold Water Melon, large, early, sweet and juicy; Barlett's Onion, extra early, mild flavor, silvery white; Alaska Pea, earliest on record; New Japanese Pie Pumpkin, unequalled for pies, custards, etc., good size, productive; Golden Upright Pepper, large, mild, excellent; Atlantic Prize Tomato, earliest, large and productive. One packet each of above and 7 other sorts together with 10 Packets of Flower Seeds, (30 packets in all) mailed in box with catalogue for only 50 CENTS. Our beautiful catalogue and one packet each of Atlantic Prize Tomato and Defiance Summer Lettuce only Four Cents. These offers are made to introduce my J. J. BELL, Windsor, N. Y. SUPERIOR SEEDS. Address at once,

VICK'S SEEDS PLANTS

FLORAL GUIDE FOR 1890, the Pioneer Seed Catalogue of America, contains complete list of Vegetables, Flowers, Bulbs, Potatoes and Small Fruits, with descriptions and prices. Same shape and style as proved so satisfactory last year. Many new and elegant illustrations, handsome colored plate 8x10 inches, and frontispiece. Special Cash Prices \$1000.00; see Floral Guide. Every person who owns a foot of land or cultivates a plant should have a copy. Mailed on receipt of 10 cents, which amount may be deducted from first order. ABBRIDGED CATALOGUE FREE.

JAMES VICK, SEEDSMAN, ROCHESTER, N. Y.

The Choice Novelties of 1890.

HERE IS A LIST THAT WILL GIVE SATISFACTION.—Red Cross Tomato—Resembles Livingston in form, solidity, color, etc., but is decidedly earlier. Ignatum Tomato—Round, solid and productive; both Rural New Yorker and Prof. Taft have a special good word for Ignatum. Grage Watermelon—A distinct variety, flesh salmon-color, quality and flavor peculiarly rich and sweet. Marblehead Early Marrowfat—A remarkably strong grower, a tremendous cropper, and bears several pickings. Early Prize Pea—Cross between Tom Thumb and Advancer; dwarf, early, and a splendid cropper. The Favorite—A better Pea than either Abundance or Everbearing. Ford-Hook Squash—Dry, fine grained, sweet, hardy, prolific. White Prolific Marrow—A new English dwarf, wrinkled Pea, a wonderful cropper. Giant Pascal Celery—Stalks extra large, solid, and a better keeper than other self-blanching varieties. Cylinder Wax Bean—The rust and blight-proof Wax Bean so long sought for. Coral Gem Pepper—With its hundreds of brilliant red pods, it is as brilliant as a gem. Blonde Black-Head Lettuce—A rich, golden-headed Cabbage, crisp and fine. 15 cts. per package; Ten for \$1.00. An extra package to all naming this paper. Seed Catalogue free. JAMES J. H. GREGORY, Marblehead, Mass.

ANNUAL 11 PKTS. WILSON'S 25c ENGLISH SHOW PANSIES

GRAND RAINBOW COLLECTION

OF RARE AND BEAUTIFUL FLOWERS

We claim to be one of the largest growers and importers of Flower Seeds in America. In order to introduce them as widely as possible we make this UNPRECEDENTED OFFER. For 25c. in postage stamps or money we will send by mail one pkt. each of the UNPRECEDENTED OFFER, following Valuable Seeds: New Diamond Aster, very handsome colors; Mixed Balsams, immense size, double as a rose; Calliopsis, Golden Wave, new, very showy; New Hybrid Calliopsis, unrivaled for beauty; Phlox drummondii, Grandiflora Solandensis, 15 distinct shades; GIANT SHOW PANSIES, immense size, rich and velvety; New Mammoth Verbena, 12 choice colors; New Giant Zinnia, largest in the world; 10 Seeds of ANNUAL MECH PLANT, great value, never before offered; Amaranthus Coccineus, highly ornamental; one Beautiful Everlasting Flower, 11 full-size pkts., with directions for culture, for 25c.; 5 Collections, \$1.00. Catalogue with each order. SAMUEL WILSON, Mechanicsville, Bucks Co., Pa.

The Dingee & Conard Co's ROSES, HARDY PLANTS, BULBS and SEEDS.

Largest Rose Growers in America.

OUR NEW GUIDE, 116 pp., elegantly illustrated, is sent FREE to ALL who write for it. It describes and tells HOW TO GROW over TWO THOUSAND FINEST varieties of ROSES, HARDY PLANTS, BULBS and SEEDS. 25 NEW ROSES, NEW SHRUBBERY, NEW CLEMATIS and Climbing Vines, NEW SUMMER FLOWERING BULBS, JAPAN LILIES, GLADIOLUS, TUBEROSES, CARNATIONS, NEW JAPAN CHRYSANTHEMUMS, New MOON FLOWERS, and the choicest

65 Large Rose Houses.

New and RARE FLOWER AND VEGETABLE SEEDS

Goods sent everywhere by mail or express. Safe arrival guaranteed. If you wish Roses, Plants, or Seeds of any kind, it will pay you to see our New Guide before buying. Send for it—free. Address THE DINGEE & CONARD CO., ROSE GROWERS and West Grove, Pa. SEEDSMEN.

WB TORENIA FOURNIERI BURPEE'S GEM COLLECTION FOR 1890

Contains one regular size packet each of the rare and lovely blue Torenia Fournieri—the gorgeous new Shirley Poppies—the fragrant Little Gem Sweet Alyssum—many varieties mixed of Choice Double Asters—the unequalled strain of Burpee's Superb Camellia-Flowered Balsams—Finest Mixed Chinese and Japanese Pinks—Extra fine Mixed New and Beautiful Ipomoeas—Choice Mixed Pansies—Fordhook strain of Superfine Petunia Hybrid— and twelve grand New Sweet Peas Mixed, in all TEN VARIETIES best new and popular ANNUALS for 25 cts. or FIVE GEM COLLECTIONS mailed for \$1.00. Try to get up a Club. Illustration and directions for growing printed upon each packet. Purchased separately at retail, the ten packets in our 25 cent Gem Collection would cost 85 cents, and this SPECIAL OFFER is made to induce all to try.

ORDER NOW BURPEE'S FARM ANNUAL FOR 1890, handsomely illustrated with all about THE BEST SEEDS! including NEW VEGETABLES and FLOWERS of real merit, which cannot be obtained elsewhere.

W. ATLEE BURPEE & CO., Philadelphia, Pa.

BUIST'S MORNING STAR PEA

The Earliest Pea in the World.

THE FIRST IN THE MARKET

from all the large Pea growing sections last season. Mailed postpaid—One-third Pint, 15 cts. Pint, 30 cts. Quart, 50 cts. Two Quarts, 90 cts.

BISMARCK DWARF BUTTER WAX BEAN—BEST VARIETY KNOWN, most productive, entirely stringless and free from rust. One-third Pint, 25 cts. Pint, 40 cts. Quart, 70 cts. Special Prices on all Seeds by quantity.

BUIST'S GARDEN GUIDE and ALMANAC for 1890 contains 144 pages with our prices and DISCOUNTS RANGING FROM 10 TO 20 PER CT. mailed on receipt of 10c.

ROBERT BUIST, JR. SEED CROWER.

STORES, 922 & 924 Market St., Next to Post Office, PHILADELPHIA.

One Pkt. of The Wonderful Lima Bean FREE for every dollars worth of Seed ordered.

FOR 25 CENTS we will mail, post-paid, one packet each Surehead Cabbage, White Plume (self-blanching) Celery, New Buttercup Lettuce, New Volunteer Tomato, Florida Emerald Cucumber, and our ILLUSTRATED CATALOGUE OF CELEBRATED ROCHESTER SEEDS.

MOREHOUSE & COBB, ROCHESTER, N. Y.

See our special offer on page 195. For only \$1 you can get the Peerless Atlas of the World and one year's subscription to the LADIES HOME COMPANION and the FARM AND FIRESIDE, all postpaid. This offer is good for 30 days from date of this paper.

CATALOGUE SENT FREE. STEWART'S SELECTED SEEDS. FLOWER, GARDEN, FIELD. True to Name. J. D. STEWART SEED CO. SPRINGFIELD, OHIO.

Mention this paper when answering advertisements.

Our Miscellany.

A MAIDEN'S QUERY.

Lovest thou for beauty's sake?
Love me not, ah, no!
Love the sun! See in its wake
Golden locks in splendor on the blue outflow!

Lovest thou for youth's sweet sake?
Love me not, ah, no!
Love the spring. Her roses take,
Ever freshly blooming. Mine will shortly go.

Lovest thou for wealth, for gold?
Love me not, ah, no!
Love the sea. Its waters hold
Coral groves and pearls and golden sand below.

Lovest thou for love's own sake?
Oh, then love thou me!
Love have I that naught can shake;
It has been thine only, thine will ever be.

—From the Swedish Transatlantic.

THE true way to mourn the dead is to take care of the living who belong to them. These are the pictures and statues of departed friends which we ought to cultivate, and not such as can be had for a few guineas.—*Burke.*

THE chronically unhappy man, who persists in trying to sour humanity, should get him to his closet with his woes and give the sunshine a chance to warm his neighbors.—*Arkansas Traveler.*

AN exchange prints the following suggestive dun: "Delinquent subscribers are hereby warned not to let their daughters wear this paper for a hustle, as there is considerable due on it and they might take cold."—*Unidentified Indiana Paper.*

See our special offer on page 195. For only \$1 you can get the Peerless Atlas of the World and one year's subscription to the LADIES HOME COMPANION and the FARM AND FIRESIDE, all postpaid. This offer is good for 30 days from date of this paper.

I LIKE the click of the type in the composing stick of the printer better than the click of the musket in the hands of the soldier. It bears a leaden messenger of deadlier power, of sublimer force, and surer aim, which will hit its mark though it is a thousand years ahead.—*Chapin.*

ALL that is best in the great poets of all countries is not what is national in them, but what is universal. Their roots are in their native soil; but their branches wave in the unpatriotic air, that speaks the same language unto all men, and their leaves shiver with the illimitable light that pervades all lands.—*Longfellow.*

TO POTATO RAISERS.

The Bowker Fertilizer Co., of Boston, Mass., told a representative of FARM AND FIRESIDE while in their office a short time since, that they intend to offer a large cash prize to the party who shall raise, on Stockbridge Potato Manure alone, a larger crop of potatoes than that which took the prize in 1889; and they further stated that if that crop is not beaten, the prize is to be suitably divided. They will send full particulars, rules and conditions governing the contest to the readers of FARM AND FIRESIDE on application. Notice their advertisement on this page, and do not fail to state in your letter that you saw their offer in FARM AND FIRESIDE.

"Why, Pat, for heaven's sake, what is the matter?" "Well, sorr, I swallowed a pertater-bug; and although, sorr, I took some Parrus-green wldn five minutes after, ter kill th' baste, shill he's just raisin' th' devil luside o' me, sorr."

Mrs. Kendal, the English actress, wears on her chatelaine five little bells, one to represent each of her children. These bells are curiously wrought and inlaid with tiny gems, and bear on their margin the monogram and date of birth of the child thus kept in memory.

"Farewell, dearest," she sighed, as she lay against the lapel of his double-breasted coat. "And George, you may kiss me once, on my forehead, ere you go." "Thanks, Angeline," thoughtfully murmured the young man, "but the last time I kissed a girl on the forehead I got a bang in the mouth." A moment later he left the house looking as if he had been eating marshmallows.—*Harvard Lampoon.*

LIFE appears to me too short to be spent in nursing animosity or registering wrongs. We are, and must be, one and all, hardened with faults in this world; but the time will come when, I trust, we shall put them off in putting off our corruptible bodies; when debasement and sin will fall from us with this cumbrous frame of flesh, and only the spark will remain, the impalpable principle of life and thought, pure as when it left the Creator to inspire the creature.—*Charlotte Bronte.*

How little, after all, we know of what is ill or well. How little of this wondrous stream of cataracts and pools, this stream of life that rises in a world unknown and flows to that mysterious sea whose shore the foot of one who comes hath never pressed? How little of this life we know—this struggling ray of light 'twixt gleam and gloom—this strip of land by verdure clad between the unknown wastes, this throbbing moment filled with

love and pain, this dream that lies between the shadowy shores of sleep and death. We stand upon this verge of crumbling time, and we love, we hope, we disappear. Again we mingle with the dust, and the "kuot intricate' forever falls apart."

A DOLL MADE OF CORN HUSKS.

A doll made of corn husks, and dressed entirely in the same material, is a novelty, and so dainty a creature that she cannot fail to please the most fastidious little lady in the land. The model is about eight inches tall, handsomely dressed in modern style, and is really quite a work of art.

A corn cob is the foundation of the body. Measure and mark the waist line; below this wind layer after layer of husks, leaving them full size and fluffy at the bottom, but cutting out goes at the top, so as to make it shapely; stick a pin through anywhere it is necessary to keep the skirts in place. Small strips of husks are wound closely and pinned to the body for arms, after having wound a few extra strips across the shoulder to make the requisite breadth. A bit of cotton is laid over the end of the cob for the head, shaping it as well as possible. This is covered with a very smooth piece of husk, and the eyes, nose and mouth marked with a pen or pencil, and a little bit of carmine is put on the cheeks to give her the flush of health.

Some of the best husks are selected for the dress, a few of them being stained with a pluk aniline dye for trimming. Two full widths of husks are used for drapery in the back, the join and puff being fastened with pins, which are hidden under the folds. A full-draped apron front covers the front and sides; the edges are vandyked—that is, squares cut out and a row of pink husks, cut in fringes, set underneath. Where it is impossible to hide the pins, stars are made by cutting a tiny disk of the straw-colored husk and one of the pink, and sticking the pins through the middle, giving the appearance of a very small rosette.

A bunch of the corn silk is fastened onto the head for hair, the back falling loosely to the waist, while the front is cut into shapely bangs. The bonnet, made of colored husks, fits the head closely. A coachman's cape covers the shoulders. By using different coloring matter a great variety of doll's dresses may be made; whole families of fathers and mothers, little children, sailor boys and gypsy girls can be made to spring into being almost like magic, for the husks are very pliable and not at all troublesome to handle.—*New York Press.*

HER COMING OUT PARTY.

Miss Hypatia Debut was given a coming out party last night. It was the first time she had come out so far, and it made her feel a little awkward at first, but before the evening was over she began rather to like to have the young men look at her pretty white arms and shoulders. Before retiring she wrote in her diary, as every young girl of any imagination does. After several pages of description of the evening's gayety she added: "I think coming out parties are too sweet for any use. As I can't have a first coming out party again, I mean to come out further and further just as fast as mamma and the dressmaker will let me." And if you read the notices of the society events of the season you will probably see descriptions of Miss Debut's increasingly decoilette dresses.—*Chicago Times.*

METHOD IN IT.

"I thought you did not like Williamson?" "Neither I do." "Well, he tells me you sent his boy a Christmas gift?" "Well, I found one of the most maddening hand-organs you ever listened to and sent it up."—*Cleveland Times.*

HE BELIEVED IN IT.

First Stranger—"Yes, I believe firmly in the influence of heredity. Take my own case, for instance. All my ancestors for generations have been men of letters or have been connected with literature in some way."

Second Stranger—"And you follow in their footsteps?"

First Stranger—"Yes, I am a book agent."—*America.*

WE'RE COMING TO IT.

"Have the groceries come in yet, John? It is only five minutes before dinner and the pantry's empty?" "No, ma'am, but they're on the way—the self-raising flour, the three-quarters cooked oatmeal, the canned vegetables, Jimpson's XXX ready-prepared coffee, Erin's patent mashed potatoes, the twenty-second tea, the self-eating Limburger, and all."—*American Grocer.*

CONSUMPTION CURED.

An old physician, retired from practice, had placed in his hands by an East India missionary the formula of a simple vegetable remedy for the speedy and permanent cure of Consumption, Bronchitis, Catarrh, Asthma and all Throat and Lung Affections, also a positive and radical cure for Nervous Debility and all Nervous Complaints. Having tested its wonderful curative powers in thousands of cases, and desiring to relieve human suffering, I will send free of charge to all who wish it, this recipe in German, French or English, with full directions for preparing and using. Sent by mail, by addressing, with stamp, naming this paper, W. A. NOYES, 820 Powers' Block, Rochester, N. Y.

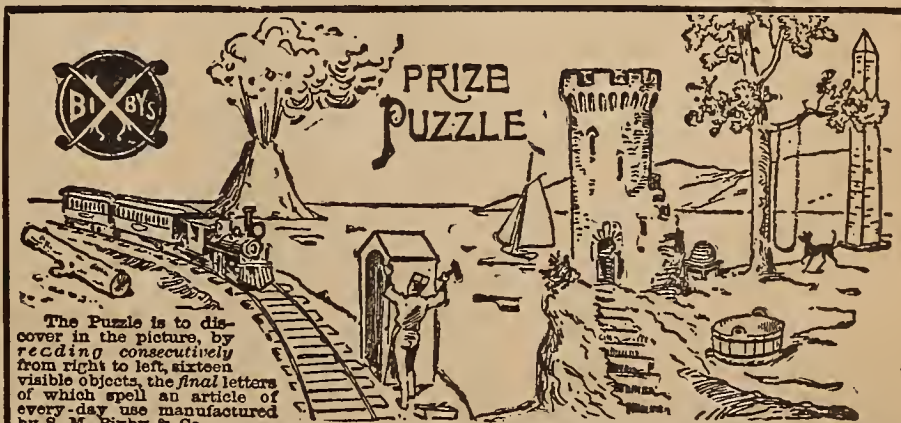
PRIZES FOR 1890.

The Stockbridge Manures won over all other fertilizers in the great potato and oat contests for 1889, the grand prize of \$1,100 being awarded for a crop of 738 bushels potatoes raised in ONE crop on a single measured acre, this being a yield larger by 70 bushels than was raised on any other fertilizer, stable manure, or on both combined. This prize was awarded by the "AMERICAN AGRICULTURIST" only after the most searching investigation.

For 1890, we offer a large cash prize for potatoes, to be awarded to the party who shall raise on Stockbridge Potato Manure alone, a larger crop than that which took the prize in 1889, and if that crop is not beaten, the prize is to be suitably divided.

For further particulars, and for rules and conditions governing the contest, address

Bowker Fertilizer Co., 43 Chatham St., Boston, Mass.



WE OFFER TO PRESENT, FREE, the game "A SWARM OF BEES," to EACH ONE sending us a CORRECT ANSWER during the year 1890. PROVIDED—a two cent stamp is enclosed, and the answer to the puzzle (consisting of the sixteen words distinctly written) is accompanied by a label taken from the top of the lid of a box of the large or "B" size of

BIXBY'S "THREE BEE" BLACKING,

With Patent Handle, -
FOR MEN'S SHOES.
or a label from a bottle of
BIXBY'S "ROYAL POLISH,"
FOR LADIES' SHOES.

The labels may be readily removed after submerging the lid or bottle in water overnight. Answers must be accompanied, also, with the NAME AND ADDRESS OF THE MERCHANT from whom the Blacking or Polish was purchased. The Game we offer is one of the most amusing and yet scientific games ever invented—simple enough to give entertainment to the young—deep and ingenious enough to entertain a congress of chess experts. It is played on a handsomely constructed board, furnished complete with counters, etc. ON THE CONDITIONS PREVIOUSLY NAMED we will ALSO PRESENT a

FIVE DOLLAR GOLD PIECE

to the sender of the Greatest Number of the "B" size of "Three Bee" Blacking Labels, received by us EACH MONTH, during the same year. All those sending three or more of the labels will receive the game whether their answers are correct or not.

Extra copies of the Puzzle will be mailed, or additional information given, upon receipt of a two cent stamp. Presents will be forwarded at the end of each month—postage prepaid. If you fail to receive one it is because your answer is not correct, or you have not complied with all the requirements.

COMPETITORS for our presents will understand our object is to secure a more thorough introduction of our "Three Bee" Blacking and "Royal Polish" among consumers. Do not credit disparaging statements about the goods, but test them yourself. When they are not readily found an Enterprising Local Dealer will procure a Supply if a legitimate demand is made for them. Address, B. M. BIXBY & CO., Advertising Department, 194 and 196 Hester St., New York.

WE LEAD Where Others Follow. Beyond a question we have the best line of CARTS made, for the Horseman, Farmer, or for business or pleasure purposes. Send stamp for Catalogue and wholesale prices. A. L. PRATT & CO., 76 to 86 Willard St., Kansas City, Mo. Mention this paper.

HOW TO BUILD A HOUSE

If you are thinking about building a house you should send 25 cents for my new book containing plans, specifications for 25 houses, all from 2 rooms up, costing from \$3,500. A book of great value to all who desire to build a house. Will suit you almost as well as paid \$5 for a book. Sent postpaid on receipt of 25 cents. Address J. S. OGILVIE, Publisher, 67 ROSE ST., New York. In writing mention this paper.

Fun for Winter Evenings
We advertise extensively, and to secure which medium gives best returns have prepared a 48-page pamphlet, with about 100 containing over 30 parlor games, selected from best sources, which we will send to any address upon receipt of 4 cts. in stamps and name of this paper. Stamps returned if you do not mention the paper. Send cut to: PRUSSIAN ARMY OIL CO., 33 India Wharf, Boston, Mass.

DETECTIVES

We want a man in every locality to act as a private Detective under our instructions. Particulars free. Central Detective Bureau, Box 195, Topeka, Kan.

YOUR FEET Easily Reduced in Size. Painless free. PEDINE CO., Hartford, Conn.

DON'T BUY SEEDS Until you see our Catalogue of Flower and Vegetable Seeds. F. W. RITTER, Jr., Seedsman, 130 S. Jefferson St., DAYTON, O. "Free to all."

GREEN'S NURSERY

Rochester, N. Y. Send for their Free Catalogue, in Colors, and Sample Copy of Green's Fruit Cereals. Mention this paper.

GENEVA PEDIGREE WHITE GRAPE

EARLY. HEALTHY. HARDY. PRODUCTIVE. GOOD.
[JOSEPH HOOPER says: "The best of the newer varieties was Geneva, a fine white Grape of excellent flavor." H. HYATT, Per Yarn, N. Y., says: "There is no milder or rot on vine or fruit. It is an excellent keeper." D. GREENAWALT, Franklin Co., Pa., says: "I am much pleased with the Geneva. Quality best." S. D. WILLARD, Geneva, says: "I know of no white grape of recent introduction so rich and pleasing." For illustrated circular and prices, address R. G. CHASE & CO., Geneva, N. Y. We want Agents to solicit orders for our general line of Nursery stock. Salary and expenses to successful men.]

NEEDLE THREADING THIMBLE AND THREAD-CUTTER

GREAT NOVELTY. Prem. No. 191.
A practical and reliable method of threading needles. A most useful article for woman's use, and no lady's work-basket should be without it. With a few minutes practice you can thread ordinary coarse or fine needles of any make. Its superiority over the old common thimble is that it enables a lady to thread her needles with the greatest ease and rapidly, while as a sewing thimble it is equally as good. The thimbles are highly polished, silver plated, and resemble coin silver. The threader is the most perfect ever produced.

Given as a premium for new yearly subscriber at 50 cents. Price, including one year's subscription, 60c. We offer it for sale for 15 cents. Postage paid by us in each case. Address **FARM AND FIRESIDE, Philadelphia, Pa., or Springfield, Ohio.**

Smiles.

THE BALLAD OF CASSANDRA BROWN.

Though I met her in summer, when one's heart lies off at ease,
As it were, in tennis costume, and a man's not hard to please,
Yet I think at any season to have met her was to love,

While her tones, unspoiled, unstudied, had the softness of the dove.

At request she read us poems in a nook among the pines,
And her artless voice lent music to the least melodious lines;
Though she lowered her shadowing lashes in an earnest reader's wise,
Yet we caught blue gracious glimpses of the heaven that were her eyes.

As in paradise I listened—ah, I did not understand
That a little cloud, no larger than the average human hand,
Might, as stated oft in fiction, become a sable pall,
When she said that she should study elocution in the fall.

I admit her earliest efforts were not in the Eracles vein;
She began with "Lit-tle Maayble, with her faayce against the paayne,
And the beacon light a-treemle"—which, although it made me wince,
Is a thing of cheerful nature to the things she's rendered since.

Having learned the Soulful Quiver, she acquired the Melting Moan.
And the way she gave Young Grayhead would have liquefied a stone.
Then the Sanguinary Tragic did her energies employ,
And she tore my taste to tatters when she slew The Polish Boy.

'Tis not pleasant for a fellow when the jewel of his soul
Wades through slaughter on the carpet, while her orbs in frenzy roll;
What was I that I should murmur? Yet it gave me grievous pain
That she rose in social gatherings, and Searched Among the Slain.

I was forced to look upon her in my desperation dumb,
Knowing well that when her awful opportunity was come
She would give us battle, murder, sudden death at very least
As a skeleton of warning, and a blight upon the feast.

Once an, once, I fell a dreaming; some one played a polonaise
I associated strongly with those happier August days;
And I mused, "I'll speak this evening," rent pangs forgotten quite.
Sudden shrilled a scream of anguish: "Curfew shall not ring to-night!"

An, that sound was as a curfew, quenching rosy, warm romance;
Were it safe to wed a woman one so oft would wish in France?
Oh, as she "cul-limbed" that ladder, swift my mounting hope came down.
I am still a single cynic; she is still Cassandra Brown.

IS THIS HOW YOU FEEL?

OH, YES, I've got it, or rather it has got me; I mean this up-your-nose craze now going around. I am greatly tickled with it; that is, my nose is. They say it is the genuine impo article, duty paid, and not adulterated, with letters blown in. My throat and language, I am sorry to say, are highly inflamed. The mucous gambrinus, I mean membranous, won't yield to anything I may pour down and I have tried a little of everything, especially the latter. I suffer from several stitches in my head and lack of several in my chest, which were burst in sneezing. I sneeze at everything I see, which I do not think is altogether proper, and I have such a roaring in my head that the boarder in the next room complained of it keeping him awake. I have to get up on a stepladder to talk above a whisper, and I am afraid I will have to breathe through my ears. I can't shake off this tired feeling that is upon me more than usual, per- I can't find any fellow to shake it off with. When I sneeze it lifts me off my feet with two-sky-rocket force. It is worse in the morning than at night, and at night it is worse than in the morning, and when I cough I don't raise anything but the neighbors, they say I can stop it by twisting a rope tightly around my neck. What little I do eat distresses me, and it does not always come from the fact I have lately got in arrears with the landlord. My eyes are as watery as railroad stock, and my neck is exceedingly stiff and formal. It is a hard matter for me to turn my head and look across the street when I meet a creditor when I am out to let the house quiet down a little. My mind has been so affected that I have been nearly on the point of calling in a

doctor, but it has not got quite that bad. I can't write at night because I sneeze the lamp out, and my nose is so sore I will soon have to chloroform it to blow it. I have pains in my breast every time I lie, which is aggravating, while I am apt to get irritable if any one calls me a liar or anything of that sort. This is a veritable case of epizootic.—*Detroit Free Press.*

THEY WERE HORNETS.

We were waiting on the depot platform in a new town in Alabama, and as the dozen of us walked up and down, some one espied a wasp's nest hanging on a bush across the track. He pointed it out as a wasp's nest, but a short, solid man, who had a head like a cannon-hall and a jaw denoting great firmness of character, at once replied:

"I beg your pardon, sir, but you have made the very common mistake of classing the wasps with the hornets. That is a hornet's nest."

"And I beg your pardon, sir," protested the other, who was a planter, "but hornets don't nest that way. They build mud houses under the eaves of old buildings, and one won't sting you unless you pick him up. My niggers declare that no wasp can sting if he wants to, while on the contrary a hornet—"

"I beg to differ with you, sir," interrupted the solid man. "That is a wasp's nest. You are right about the wasp being a peaceful insect, and I think I will take that nest along for a souvenir. They say they are a sure cure for quinsy."

"Do you know a hornet from a wasp?"

"I should remark!"

"Well, when you get through with that nest I want you to tell me whether it was occupied by hornets or wasps. Gentlemen, look out for yourselves."

He started for the woods and we followed, and when we reached a safe distance and looked back, the man with the iron jaw was just cutting off the limb which held the nest. He held it up and called to us to come and see it, but this call was followed by a yell which would have done credit to a Comanche warrior with a double Adam's apple in his throat. The big yell was followed by a series of hoots, whoops, exclamations and ejaculations, and these were accompanied by gymnastics of an intricate character. He jumped, dodged, twisted, and cavorted, and finally started down the track on a gallop. Seventy minutes later, and just as the train whistled, he came out of the woods, dead lame, one eye shot, his nose as big as his fist, and head bare.

"Hornets or wasps?" queried the planter.

"Hornets, by thunder!" groaned the victim as he hurried to get his valise.

A LOST OPPORTUNITY.

"I can sympathize with those passengers who are snow-bound on the western railroads," he said to a *Detroit Free Press* man, as he laid down his paper. "I have been right there myself."

"Give us the particulars," remarked his audience.

"It was the second year of the Union Pacific road, and we were caught in the Rocky mountains. It was a sudden storm, and no one was prepared for it. We were six days in the drift."

"How did you keep warm?"

"Burned all the wood and then the baggage-car."

"How were you off for provisions?"

"Had nothing after the second day, and we had to cut up our boot-legs and chew 'em. On the fifth day we were going to kill and eat a boy, but his mother made such a fuss that we decided to wait one day more. I have always been sorry."

"What—for waiting?"

"Yes. My stomach has never been right since, and it wasn't two weeks later when the boy fell out of a window in San Francisco and was killed. He would have made a good square meal for twenty-five of us and been of real benefit to his fellow-men. But I don't make no simpleton of myself again."

HOW THE DEACON GOT EVEN.

It was Elder Buzzell who called on a worthy deacon to open a meeting with prayer, and was surprised when the good man began his petition with "Oh, thou great insignificant God!"

"Omnipotent, brother; you mean omnipotent God," whispered the horrified pastor.

"Huh!" ejaculated the surprised supplicant.

"What's that you say?"

The preacher repeated the correction, whereupon the deacon continued his prayer to a great length, and concluded as follows:

"Finally, Lord, bless our eddicated parson. Stuff him with religion as well as with words; break him of the habit of fault-finding, if possible, and at the 'leventh hour gather him with the saints in thy kingdom."

Elder Buzzell, who was fond of telling the story, always ended by declaring that it was his first and last attempt at correcting the speech of his brethren.—*Lewiston Journal.*

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CATALOGUES RECEIVED.

Seed Annual of Morehouse & Cobb, Rochester, N. Y.
Annual seed catalogue. F. W. Ritler, Dayton, Ohio.
Catalogue of strawberries. Wm. Stahl, Quincy, Ills.
Hartel's seed catalogue. John G. Hartel, Keokuk, Iowa.
Mills' seed catalogue for 1890. F. B. Mills, Thorn Hill, N. Y.
Choice Iowa seeds. Catalogue of 1890. Iowa Seed Co., Des Moines, Iowa.
Catalogue of Green's Nursery Co., Rochester, N. Y. Sent on receipt of 10 cents.
Catalogue of small fruit plants. J. M. Edwards & Son, Fort Atkinson, Wis.
A few horticultural novelties and other plants. Luther Burbank, Santa Rosa, Cal.
Faust's Farm Annual of garden, farm and flower seeds. H. G. Faust & Co., Philadelphia, Pa.
Catalogue of field and garden seeds grown by James W. Bouk, Greenwood, Cass county, Neb.
Seed catalogue for 1890. William Henry Maule, Philadelphia, Pa. A very excellent catalogue.
Catalogue of Acme pulverizing harrow, clod crusher and leveler. Duane H. Nash, Millington, N. J.
Catalogue of disc harrows, corn-planting machinery, etc. Keystone Manufacturing Co., Sterling, Ills.
Johnson & Stokes' Garden and Farm Annual. A beautifully illustrated catalogue. Johnson & Stokes, Philadelphia, Pa.
Catalogue of clay-working machinery, engines, boilers, pulleys, shafting, etc., made by the Frey-Sheckler Co., Bucyrus, Ohio.
Retail catalogue of warranted vegetable, flower and grain seeds grown and sold by James J. H. Gregory, Marblehead, Mass.
Catalogue of Livingston's True Blue seeds. A. W. Livingston's Sons, Columbus, Ohio. One of the most reliable firms in the country.

EXPERIMENT STATION BULLETINS.

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ALABAMA.—(Auburn) Bulletin No. 9. Science contributions, Vol. 1, No. 1. Nematode root galls. A preliminary report on the life history and metamorphoses of a root-gall Nematode, *Heterodera radicicola* (Graef) Mull., and the injuries produced by it upon the roots of various plants. Illustrated. Bulletin No 10, January, 1890. Grape culture.
FLORIDA.—(Lake City) Bulletin No. 7, October, 1889. Corn experiment. Muck.
INDIANA.—(Lafayette) Bulletin No. 29, December, 1889. Grasses of Indiana. Illustrated.
LOUISIANA.—(Baton Rouge) Bulletin No. 25. Analyses of commercial fertilizers.
MASSACHUSETTS.—(Hatch Station, Amherst) Bulletin No. 7, January, 1890. Miscellaneous.
MICHIGAN.—Bulletin No. 54, October, 1889. Experiments and observations on the Jack-pine plains. Bulletin No. 55, December, 1889. Fruit testing at the South Haven sub-station.
MISSOURI.—(Columbia) Bulletin No. 9. Study of the life history of corn at its different periods of growth.
NEW YORK.—(Cornell Station, Ithaca) Bulletin No. 13, December, 1889. (1.) On the deterioration of farmyard manure by leaching and fermentation. (2.) On the effect of a grain ration for cows at pasture. Bulletin No. 12, December, 1889. (Technical) A new apparatus for drying substances in hydrogen, and for the extraction of the fat.
PENNSYLVANIA.—(State College) Bulletin No. 9, October 1889. Digestibility of corn fodder and silage.
SOUTH CAROLINA.—(Columbia) Bulletin No. 7, October, 1889. Meteorological data.
TENNESSEE.—(Knoxville) Annual report for 1889.
VERMONT.—(Burlington) Bulletin No. 18, January, 1890. Pig feeding.

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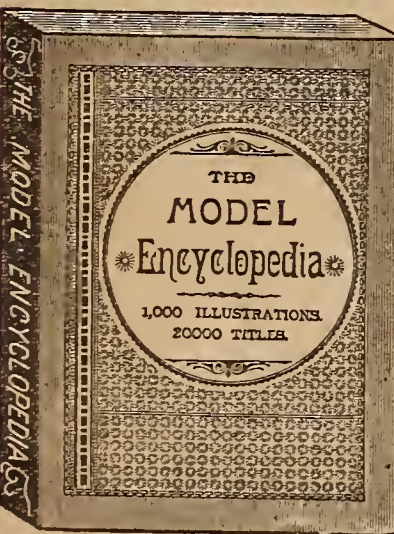
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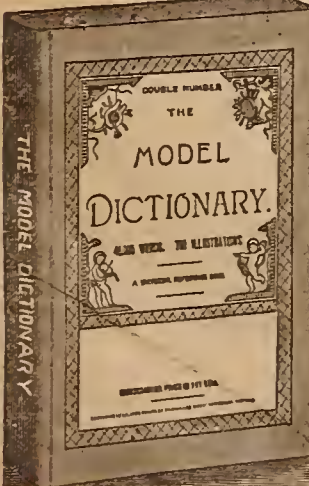
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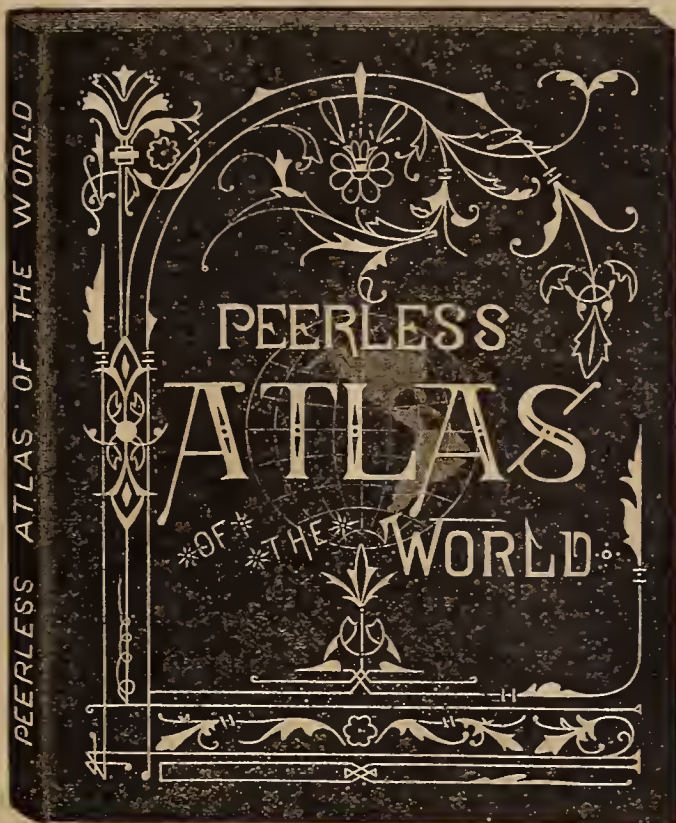
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20 PAGES.

EASTERN EDITION.

VOL. XIII. NO. 12.

PHILADELPHIA, PA., and SPRINGFIELD, OHIO, MARCH 15, 1890.

TERMS (50 CENTS A YEAR.
24 NUMBERS.)

The Circulation of FARM AND FIRESIDE this issue is
250,700 COPIES.
 The Average Circulation for the 24 issues of the year 1889, was
240,650 COPIES EACH ISSUE.
 To accommodate advertisers, two editions are printed. The Eastern edition being 100,300 copies, the Western edition being 150,400 copies this issue.
 Farm and Fireside has the Largest Circulation of any Agricultural Journal in the World.

Current Comment.

A SUBSCRIBER in south-western Ohio writes that the erection of two large binder-twine factories in his town has directed the attention of the farmers in that section to hemp culture. There is not much doubt but that the rich Miami valley is capable of producing immense crops of hemp. It will be a good thing for the farmers there to thoroughly investigate the business.

Heretofore, the greatest drawback to hemp culture in this country has been the amount of hand labor required in the handling of the crop. The binder-twine question last year stirred up an unusual amount of interest in the home production of fibre. One good result is that inventive genius is at work in that line, and it is hoped that we shall soon have machinery perfected that will do away with hand labor and crude processes, and enable this country to produce all the fibre it uses.

For several years binder-twine of a superior quality has been made of hemp, and it is now sold cheaper than that made from the imported fibres, manilla and sisal. Experiments in making it from flax have been successful, and factories are now making binder-twine of flax in large quantities. This is one of the most important achievements in this line, as it utilizes what has been for the most part a waste product. Large crops of flax are raised in the north-west for the seed, and no use is made of its excellent fibre. The success of the experiments made is a promise that it all can and will be used, and to the great advantage of the producers. It is confidently hoped that improved machinery will soon make it possible for this country to make all its binder-twine from home-grown fibre plants.

Another fibre plant that has been attracting considerable attention lately is ramie. Its fibre is almost as fine as silk, and can be used for making the finest fabrics, and as a substitute for silk. It is recent improvements in machinery for separating the fibre from the stalk that has renewed the interest of the public in ramie culture. It is adapted to the South, but can be grown farther north than cotton.

There are other fibre plants that can be grown in this country, but in these three only we have plants that are adapted to all its latitudes—ramie for the southern, hemp for the middle and flax for the northern portions.

This country exports one fibre in large quantities, and at the same time imports

fibre that can be grown here. Imported fibres, with their manufacture, amount to more than two thirds of the value of the immense cotton exportation of the country. It certainly looks like it would be a good thing to grow less wheat for foreign markets, and more fibres for the home market.

UNDER "Current Comment," in FARM AND FIRESIDE for February 15, 1890, is a brief article on single tax, which seems to be a cause of offense to some of our readers who are single tax advocates. We quote from some letters received on the subject. One says that the article "grossly misrepresents the single tax theory." Another writes: "You say the single tax advocates propose to abolish poverty by making the tax on land so high that no one can afford to own it [not quoted correctly]. Will you kindly state your authority for such a statement?" This writer also says: "Single taxers may be a very pestilent set of 'agitators.' If so, make it appear by honest facts and arguments; misrepresentation will only react upon its author."

It is human to err, but we do not wish or intend to misrepresent anything or anybody. Whether we are mistaken, or whether some of those who are advocating single tax fail to understand its real object, is left to the judgment of our readers. If they will turn to the article in question, they will find the main point of it to be, that, with those who believe that poverty can be abolished by the abolishment of private ownership in land, single tax is a means to an end, and that end is practically the confiscation of land without compensation to the present proprietors. Our authority is called for. It is "Progress and Poverty," by Henry George, the chief apostle of an old gospel in a new form. We have only space to quote briefly. In chapter II, book VI, he says:

To extirpate poverty, to make wages what justice commands they should be—the full earnings of the laborer—we must therefore substitute for the individual ownership of land a common ownership. Nothing else will go to the cause of the evil; in nothing else is there the slightest hope. This, then, is the remedy for the unjust and unequal distribution of wealth apparent in modern civilization, and for the evils which flow from it. We must make land common property."

In chapter III, book VII, he says:

And by the time the people of any such country as England or the United States are sufficiently aroused to the injustice and the disadvantages of individual ownership of land to induce them to attempt its nationalization, they will be sufficiently aroused to nationalize it in a much more easy and direct way than by purchase. They will not trouble themselves about compensating the owners.

So much for confiscation without compensation. It remains for us to see what method he proposes for abolishing private ownership of land. In chapter II, book VIII, he says:

We should satisfy the law of justice, we should meet all economic requirements, by at one stroke abolishing all private titles, declaring all land public property, and letting it out to the highest bidders in lots to suit, under such conditions as would sacredly guard the private right to improvements.

But while he considers this plan perfect-

ly feasible, he offers another which he thinks would give less shock to present customs and habits of thought—he would confiscate rent by taxation. He says, in same chapter and book:

Let the individuals who now hold it, still retain, if they want to, possession of what they are pleased to call their land. Let them continue to call it their land. Let them buy and sell and bequeath and devise it. We may safely leave them the shell if we take the kernel. It is not necessary to confiscate land; it is only necessary to confiscate rent.

Thus he masks the scheme. Again, he says:

Now, inasmuch as the taxation of rent or land values must necessarily be increased just as we abolish other taxes, we may put the proposition into practical form by proposing—to abolish all taxation save that upon land values.

In other words, he would abolish all other taxes purposely in order to make the tax on land as high as possible. He would do this in order to confiscate rent, or, in his own language, to take the kernel of ownership in land and leave the shell to the present proprietors. Confiscation without compensation by means of single tax is the scheme, the worst features of which are skillfully disguised by plausible rhetoric. Read the chapters quoted and you will see that we have not misrepresented the single tax theory. Our object was simply to call attention to its real purpose, and we hope that the "single taxers" who do not believe in the confiscation of private property rights, if there are any such, may see this clearly.

At some other time we may refer to the absurd and unjust proposition of taxing the "unearned increment." For the present we will only add that we believe in the truth of the proverb: "The magic of property turns sand to gold," and "Give a man the secure possession of a bleak rock, and he will turn it into a garden; give him a nine-years' lease of a garden, and he will convert it into a desert."

A RECENT bulletin of the Michigan Agricultural Experiment Station, on ribgrass, or narrow-leaved plantain, in fields of clover, is accompanied by a small sample of clover seed containing seed of this weed. The sample makes a good object lesson, and sending it along with the bulletin is an excellent method of instruction. Doubtless, many will recognize the seeds and learn that they already have in their possession a weed, the seeds of which will injure the sale of their clover seed. The bulletin thus describes the weed:

Ribgrass, ribwort, English plantain, narrow-leaved plantain, buckhorn plantain, has a perennial root, a rosette of narrow leaves six to ten inches long, acute at each end, an angled flower stalk one to two feet high, bearing a cylindrical spike of flowers. The shining seeds are brown, oblong, convex on one side, concave on the other. It is a native of Europe, but has been extensively naturalized, especially in lawns, and thin, old pastures. Nearly all kinds of stock eat the plantain freely, especially while it is young, and it is not unfrequently recommended as one of the ingredients for permanent pasture in Great Britain; but as it becomes older, stock leave the plantain to go to seed. The leaves usually spread close to the ground, like those of the dandelion, and thus exclude other plants. The stalks are slender, without leaves, and afford little fodder.

It is not such a bad weed, but it is somewhat difficult to separate its seeds from clover seed. Careful work with a good fanning-mill will do it, however. In cleaning clover seed infested with weed seed on a good mill you will get several grades. One of these grades will be pure clover seed, free from any foreign seed, and fit for sale or sowing; another grade will contain clover seed and weed seed of such a uniform size that it is almost impossible to separate them. Because this grade contains some good clover seed, it is hard to resist the temptation to sow or sell it, instead of doing the right thing, which is to burn it. Buy no grass seed at any price that contains weed seed.

COMPLAINT is often made that clover and grass seed sown with oats in the spring fail to "catch." Now, it seems rather curious that clover and grass seed sown early in the spring, on fine, mellow soil, should fail to grow. So it would be if it were true, but it is seldom true. The seed does usually sprout and grow well. The trouble occurs in the summer. Along about the time the oats are ripening they pump up the moisture from the soil and leave the young grass or clover to perish with thirst. If the summer showers are frequent, there is moisture enough for both the grass and clover to live, and there is a good "catch;" if not, the young grass and clover die, and that is all there is of it. The critical period is when the oats are ripening. If there is a drouth then, the young grass and clover are apt to perish; otherwise, sowing them with oats will be a success. If you care more for the grass than the oats, sow it alone on ground prepared as for oats, only better. In favorable seasons, clover sown in this way will bloom in August.

The finest stand of clover the writer ever saw was obtained by sowing on wheat that had been harrowed early in the spring. The soil was a clay loam, slightly inclined to "run together" in the spring and bake. Harrowing at the right time prevented the crust from forming, and put the ground in fine condition for receiving the clover seed, besides benefiting the wheat.

WE have endorsed the Farmers' League as the best plan of organization of farmers for the purpose of securing whatever just legislation they desire. In the issue of February 1, 1890, is published the constitution. Since then it has been simplified, and the life membership fee reduced to fifty cents. On receipt of this fee the national secretary will send a certificate of membership. To form local branches the first steps are as follows: Where five or more of the members of the league in any town desire to form a local branch, a charter and full instructions for the purpose will be supplied by the national secretary on receipt of \$2. When five such town branches have been organized, a county league may be formed, charter and outfit for which will be furnished by the national secretary on receipt of \$5. Any desired information about the Farmers' League may be obtained from the national secretary, Mr. Herbert Myrick, Springfield, Mass.

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tisements, as advertisers often have different things
advertised in several papers.

Our Farm.

THE CLOVER-ROOT BORER.

THIS destructive insect has only
been known in this country for
about a dozen years, having been
first noticed in New York state in
1878. It originally inhabited Eu-
rope, but so far as known, it sel-
dom, if ever, has done
serious injury there.

It is now present in a large portion of New
York, and in the north-eastern counties
of Ohio, and probably also in parts of
Pennsylvania. It seems to be gradually
spreading, and there is good reason to be-
lieve that it will ultimately invade most
of the clover producing regions of the
United States.

The adult of the clover-root borer is a
small, dark-colored beetle. It is repre-
sented, considerably magnified, at *d*, in the
cut. This beetle deposits eggs which hatch
into small, whitish larvæ, or grubs, that
bore the roots of the clover plant as
shown at *a, a*. When they become full
grown as larvæ, they look, when magni-
fied, like *b*, and are ready to change to the
chrysalis or pupa (*c*), from which in due
time they emerge again as beetles.



The effect
upon the
plant is, of
course, most
disastrous.
With its roots
hollowed out
as these bor-
ers do, it can
only die; and
whole fields
are often
ruined in this
way by these
pests.

The only
way that has
been found
practicable in
avoiding the
injuries of
the insect is
that of plow-

ing the clover up after the first year's crop
is gathered. Professor I. P. Roberts says
that in central New York the seeded land
is mowed but once, the second growth
being pastured off. "Since 1878," he adds,
"the clover-root borer has worked the
clover to such an extent that it invariably
fails the second year. This has caused us
to change from a five to a four-year rota-
tion; namely, hay, corn, oats and wheat."

CLARENCE M. WEED.

IRRIGATION.

I have shown that surface irrigation is
both wasteful and dangerous—fearfully
dangerous in very level places with rich
soil, and with a subsoil impervious to
water. There is one point in surface irri-
gation by open canals and ditches, having
a very prominent position, that I did not
mention—namely, there is immense loss
of water, both by evaporation from the
surface of the canals and ditches, and in-
filtration from them into the soil. This
infiltration has been remedied to some
extent south by lining the ditches with
stone laid in hydraulic cement, or plaster-
ing the sides with cement. But at the
higher altitudes the evaporation from the
surface of the water is immense—beyond
what it is at the sea level, owing to the
lack of atmospheric pressure, and in all
the Pacific coast region owing to the in-
tense dryness of the upper strata of air.

To remedy these two great items of loss,
the water, in many places, is brought
down from the hills and mountains by
iron pipes and distributed throughout the
land to be irrigated by pipes under
pressure. This plan is costly, but
economical and handy when once in.
With it there is not near the amount of
leveling to be done so as to admit of water
being carried to all parts of the land. It
is really a very great advance over the old
system. Say we have ten acres in orchard.
We carry the water to its highest point in
a pipe, with a faucet for an outlet. We

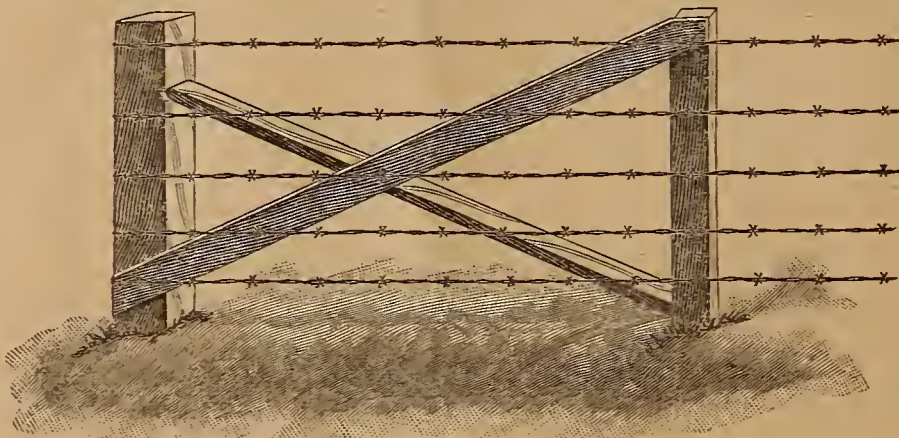
factories away up along the mountain
side. The water-wheels can be put in all
along the pipe and used to run a dynamo,
and the power be transferred to the plain
below in the form of electricity.

In sight of where I write this, on
Sonoma mountain, two thousand feet
above tide water, are never-varying
springs with water enough to fill an
eight-inch pipe, which, if brought down
in this way, would give motive power
enough in Petaluma to run all its factories,
furnish electric lighting and run its street-
cars. Then, again, we have the great
Sacramento, San Joaquin, the southern
valleys—in fact, all the valleys in the
state, all of them furnished with water
enough, away up in their surrounding
mountains, to furnish motive power for
every possible use that rotary power can
be used for, besides the irrigating of all
the land.

Then, is not irrigation the cheapest thing
on this earth? It does seem as if the
kingdom of steam and coal is near its end,
and that the generation of electricity by
the gravitation of water will soon be
crowned king, especially in mountainous
countries. D. B. WIER.

WIRE FENCE BRACE.

I send you a rough sketch of a sub-
stantial way to brace the ends of wire
fence. Braced in this way, the end post
will not yield to the tension of the wires,
and your fence will not slack. The post



WIRE FENCE BRACE.

wish to irrigate the trees, and so a furrow
is run down through the orchard to its
lowest point; from this furrow branch
furrows are run between each or every
other row of trees. We then turn on the
water, and it is made to flow in each fur-
row, by a little damming with a hoe.

By this system, the water flowing in a
narrow furrow and saturating the soil
downwards, and laterally by percolation,
there is very little waste, and nearly all
cultivation is done away with. Then, if
there is land on a lower level, the water
can be collected at the outlet of the fur-
rows and carried in a board trough onto
the next land. This plan is far ahead of
the old one of open ditches and flooding,
except in first cost.

Then we have one other point of great
value in piping down water from the
mountains, giving high pressure. We
will say we have a storage reservoir or a
stream or spring four hundred feet, or any
number of feet, on the hills or mountains
above where the water is to be used, even
up to four or five thousand feet. Piping
this water down to the plain gives im-
mense power, which can be taken from
the water every one hundred or two hun-
dred feet of its descent and utilized as a
motive power for machinery. I am not a
hydraulic engineer, but I know that a
four-inch pipe flowing full of water for
one hundred feet vertically, will give im-
mense power; and also that there is a
very simple contrivance known as the
Pelton water-wheel that will use the force
of the water and apply it to machinery
with the least possible loss of power. A
hydraulic engineer could figure out just
how many great factories a ten-inch pipe
flowing full of water would run, the water
in the pipe having a fall of five thousand
feet; I cannot, but it is reasonable to sup-
pose that such factories could be strung
along the whole fall of the pipe, the one
two hundred feet below the other, and
then when the same water did reach the
land to be irrigated it would have the
same value for irrigation it had when it
started. Now, we need not string the

should be set three feet deep in the
ground. This way of bracing the end
post will hold as many wires tight as are
ever used. CHAS. F. O'NEIL.

Wisconsin.

AGRICULTURAL CHEMISTRY

From the Standpoint of the Practical Farmer.

BY JOSEPH (TUSCO GREINER).

No. 29.

IMPORTANT CONSIDERATIONS.—In my
last article I tried to show how the soil
can become deficient in phosphoric acid
in consequence of continued cropping
with cereals. An altogether different
phase of the manure question may be met
with on farms devoted to fruit growing or
vegetable gardening. In all fruits we re-
move from the soil an amount of potash
ten, fifteen or more times as large as that
of phosphoric acid. In vegetables, root
crops, potatoes, tobacco, etc., the propor-
tion of potash is three or four times that
of phosphoric acid. Orchards are seldom
manured. Perhaps a crop of grass, with
all its large amount of potash, is taken off
also. Naturally, therefore, the potash is
just that element of plant food of which
the soil will become exhausted first, and
this element must be furnished. If we do
this in wood ashes (unleached), we also
apply phosphoric acid, but we will do no
hurt thereby. The Stassfurth potash salts,
however, will show all their virtues in
these cases. Plenty of potash makes good
and sweet fruit. It has a tendency to
make trees and vines healthy, and the
crop large, and will have good effects
generally. Any of the forms of potash
may be here used, but as the cheaper ones
(muriate, kainit, etc.) can be pretty much
depended upon to give as good results as
the higher priced sulphate, the former
should be given the preference.

In regard to amount of application, we
might safely put upon orchards and fruit
gardens quantities that would be risky
to apply to vegetable gardens and potato
fields. A dressing of 200 to 250 pounds of
muriate, or 600 to 800 pounds of kainit per
acre, however, would be fully sufficient

under average circumstances, and much
less will do where annual applications are
made.

In order to show more vividly the de-
mands for potash that fruit and vegetable
crops, especially the former, are making
on the soil, I ask the reader to inspect the
following table:

	Potash, lbs.	Phos- phoric Acid, lbs.	Nitrogen, lbs.
Apples—one ton contains.....	2.7	0.2	3.9
(Other fruits similar proportions.)			
Beets (sugar), one ton contains.....	5.5	0.6	3.6
Carrots, " " " " " "	3.5	2.0	7.7
Clover hay, " " " " " "	35.0	10.0	35.0
Hay, ordinary, " " " " " "	26.0	8.0	37.0
Mangolds, " " " " " "	4.6	0.9	8.4
Potatoes, " " " " " "	6.5	3.4	11.4
Turnips, " " " " " "	3.9	1.3	5.7

These figures, I believe, are approx-
imately correct. A full crop of apples
(say, 12 to 15 tons per acre) would take off
from that acre, 50 to 60 pounds of potash;
and should a crop of hay be taken off, also,
the amount of potash removed in that one
season would almost reach 100 pounds;
and then no allowance is made for the
wood and leaf growth. I think this
makes the reason pretty plain why potash
applications are usually so beneficial to
orchards and fruit patches.

The vegetable and root crops, where
large yields are grown, make still heavier
drafts on the potash stores of the soil.
Twenty tons of mangolds per acre is only
a common good yield, but it removes in
the roots alone over 160 pounds of potash
from the soil. A good crop of carrots (300
barrels) needs about 190 pounds of potash;
of potatoes (300 bushels), over 100 pounds;
and of turnips (25 tons), over 140 pounds
of potash. How many such crops could
be grown on land of average fertility be-
fore the available potash supply would be
exhausted, or at least terribly lowered?
On the other hand, however, we must not
forget that the loss is usually made good
by heavy applications of stable manures,
every ton of which returns to the soil
about ten pounds of potash, so that an
average application of from ten to twenty
tons of such manure will be required to
retain the original soil fertility, when
yields like those mentioned are obtained.
Where larger yields are grown and aimed
at, larger applications must be made; but
in any event, a good stable compost is an
admirable fertilizer for the crops named,
and to make good the loss of potash.

Suppose, however, that the grower, fol-
lowing the advice often given even by
expert gardeners, has used bone dust or
other phosphates freely or entirely for
some time as a substitute for barn-yard
manure. He may have been very liberal
in his applications, putting on a ton or
more per acre, yet in such dressing of
bone dust he furnishes not a single pound
of the potash, that is just the element
needed, but instead of it a large quantity
of phosphoric acid that may not be needed
at all, or, if so, at least not in such
amounts. It may work well enough for a
little while, but after a time the potash
supply of the soil must run low, and the
crops suffer for the want of it. Here may
be another case where Stassfurth potash
salts come handy.

I have never been much in favor of
using bone dust and similar fertilizers for
vegetable and root crops, but whenever
they are applied for such purposes,
especially repeatedly, or alternately with
stable manure, they should be accom-
panied or supplemented with potash salts.
Usually, the latter will be the more im-
portant of the two. Sulphate of potash is
generally considered the best form for
potatoes and other garden and root crops;
but kainit has often been used with most
excellent results, especially on potatoes.
One thousand pounds might be applied
per acre with perfect safety during the
autumn previous to planting season, while
one half or one quarter that amount of
bone dust may be all that is needed, and
possibly more.

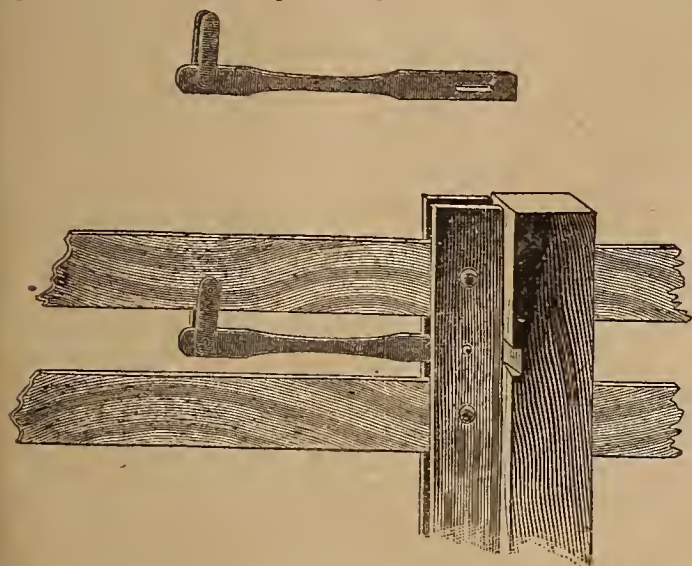
The importance of potash for these crops
is recognized by all leading fertilizer man-
ufacturers, and their special potato and
vegetable manures contain from 6 to 8 and
some even 10 per cent of potash. But it
will require not less than 1,200 pounds, and
perhaps even 1,500 or 2,000 pounds of such

fertilizer to supply the potash needed for the yields as previously named.

From all that I have said in this and the preceding article, the reason will be plainly seen why the continued production of the same kind of crop on the same land is not in harmony with the principles of economic crop feeding. Cereals, the crops that feed more largely on phosphoric acid, should come in proper rotation with root crops, potatoes, vegetables or fruits, all of which feed more largely on potash. This rotation, with the usual style of manuring, will serve to keep up the proper balance of soil fertility, and be most satisfactory generally.

GATE-LATCH.

A New Jersey friend sends a drawing of a gate fastener. The wind cannot jar it open, neither can cattle push it open with



GATE-LATCH.

their horns. It is constructed the same as the ordinary slide latch, except that it has at one end two levers fastened to it and the gate. At the other end is a slot, through which a belt works, fastened in the gate. The illustrations plainly show how any one can construct it.

SAWDUST AS MANURE.

There is an inquiry from a subscriber in a late number of FARM AND FIRESIDE as to the value of sawdust as manure on a light soil containing no humus. I will give my experience: My land is very light sand, with no humus or loam in it. As we can place a half-bushel crate of berries on the Chicago market at a cost of five cents, deliver on our dock at 10 A. M., and know it will arrive in good condition at 4 A. M., the great question is how to keep up such a soil. Stable manure is out of the question, as it is not to be bought. And as we keep no stock, and one horse can do all the work on a twenty-acre farm, how and where to obtain something for the "sand to grind on" is the question.

A mile from my place is a mill, with piles of sawdust fully twenty years old. I felt positive that sawdust which was so rotten that it would cut like muck, and was in many cases full of angle-worms, could not help making manure. Any way, my faith was strong enough to keep me hauling it from November to the end of April. It had to be a terrible blizzard when I did not make two to four loads daily. It was unloaded in piles equal distances apart, and spread in the spring; and many a backache I got spreading it. I never saw the least benefit from it, but decided injury. Everything on the part so treated made less growth than on the rest of the land. The main reason, no doubt, was, it made the ground three times as dry as it would have been without it. On light soil I would never again spread sawdust, if it was so rotten as to appear black, unless I was certain of a season of extra rainfall from first to last.

The next experiment I tried was to mulch trees with it, which proved failure No. 2. In the early part of the season those trees looked better than the others. On examining the soil under the sawdust up to July it was moist. The dry time of four to six weeks then set in, and ground mulched became quite dry. When good, fall rains set in, it seemed an impossibility to ever wet through that sawdust. I have examined it after thunder storms that caused the water to stand on our sandy soil, and it takes fearful rain for that, and it had not penetrated one inch. In short,

repeated heavy rains would not give a young tree mulched with sawdust a particle of moisture.

The simple question left to answer is, can any benefit be derived from sawdust? Yes, it has its use when properly applied, but that use is limited. As a mulch around evergreens, it has no equal. I consider the time spent in hauling one hundred loads to heavily mulch fifty pines and Norway spruces as a good investment. If trees are large enough not to require cultivation close to the trunk, a load around each tree, if full grown, or part of a load if only four or five years old, will be of great service if the following advice is strictly adhered to: The sawdust must be placed around the trunk the width of the land unplowed, simply because to get any of it on the plowed part will make that ground as dry as an ash heap. If the strip left yearly unplowed is four feet wide, the mulched part may be fully eight feet in length. It should at once be covered with a thin coating of soil, to act as a sort of conductor for the water; and trees so treated will grow far ahead of unmulched trees. If, in a year or two, an examination is made, thousands of small, fibrous roots will be found in the decayed sawdust, which, by the way, rots very quickly.

Lastly, I tried the experiment of digging extra deep holes in planting blackberries and grapes. In the bottom of each I put a good shovelful of rotted sawdust, and then covered with soil, so that the roots should not strike it at once. It was a success, and good growth was made in the second and third years. Now, to any man who can plant on good loam, such small benefit is not worth being considered; but there are, no doubt, many whose soil is so poor they will welcome any means to improve it. Men who, like me, have to help build a tree up, as it were, little by little, and who cannot afford to let any chance slip by them. Such men can benefit by my experience, and I think they will find I have given sawdust all the credit it deserves.

In my opinion, there is no manure for light soil equal to turning under green rye. I would not have it understood from this I consider it ahead of clover. Of course, I would far sooner have a crop of clover to turn under than one of rye, or I may say than two of rye, but when the comparative cost is taken into consideration, I mean in time, give me rye. All my small fruits are planted ten feet apart, and I yearly sow the whole farm to rye to be turned under in May. That distance apart there is no necessity to get any in the rows, and it can be well handled in plowing. It adds to my soil yearly, and gives it what it most lacks, "something to grind on."

JOHN MASON.

Berrien county, Mich.

MORE IMPROVEMENTS WANTED.

Improvement has always been the aim and hope of wool growers in this country, but it has been in the direction of wool and wool-bearing sheep. Our success in this direction has been unequalled in the history of sheep raising. Nor has it reached the ultimatum. What the possibilities in fleeces are, no one can say. There are unmistakable evidences that a change must be made in our methods. Those who have been successful during the last three or four years have shown the direction that future profits are to come from. A radical change has been made, and good satisfaction resulted from it. But one of two things can be done to relieve the pressure upon the industry, aside from the general improvement of prices in the world's markets, the inexorable law of demand and supply. The first of these two has been the effort to secure protective legislation, which, it is believed by some, will force prices to the point of profitable production in this country. Others claim that a tariff should be high

enough to prevent our market being a dumping ground for other countries to unload their surplus on. This legislation has been, is, and seems likely to be, a difficult problem for political economists to wrangle over.

The other and more promising thing to do has been attracting more attention each year, from the shrewdest sheep raisers throughout the United States. In all sheep-growing regions we see increased attention to mutton. Mutton and wool are receiving consideration as never before in our history. This is not confined to what have been called the mutton breeds alone, but to the cross-bred and the pure-bred Merinoes. The pure-bred English breeds have been in such demand for crossing on native and Merino flocks that they were too valuable to be sold to the shambles to any great extent. The Merinoes have been showing a strong and increasing tendency towards size, symmetry, early maturity and feeding qualities, that they may combine mutton and wool characteristics of the highest class. Nor have the most enterprising breeders of the various British breeds been ignoring the wool-bearing capabilities by any means.

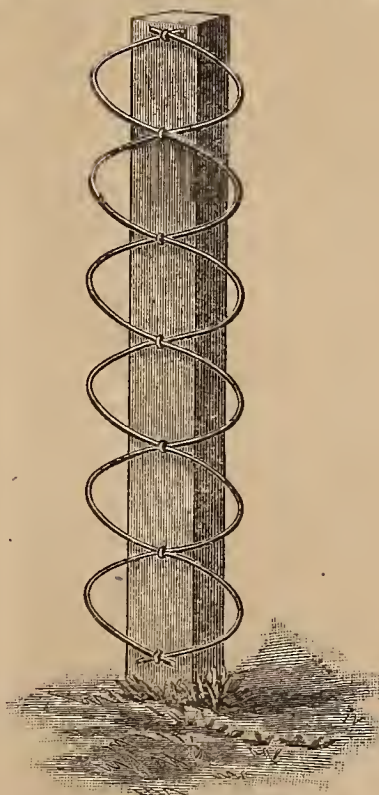
This new departure is most hopeful, showing the energy of our people in meeting the situation in a shrewd, businesslike manner.

The crossing of Merino flocks with the downs and long-wooled breeds has been strongly opposed by Merino men, but it has been profitable, and that has settled the question. It is claimed this will spoil the Merino sheep industry of the United States. It is claimed the cross-bred wool is coarse and uneven in quality. It pays to do so, and that is what we are asking for, and this we can secure by our own enterprise alone. These are permanent improvements, that are yielding cash values on capital we have already invested. This we can do, tariff or no tariff. This we do not have to depend upon congress to regulate in its slow, bungling way.

* * *

WIRED POST FOR RAIL FENCE.

I send you the description of a wired post for rail fence. I think this is the cheapest and strongest fence that can be



made out of old rails. You can wire the post either before or after it is set. Begin at the bottom of the post and wire as you see in cut, fasten with staple, where the wire crosses; after the rail is put in, hit the wire above the rail and it will be tight.

L. W. MARSHALL.

THE SILO IN CANADA.

Conceiving that the manufacture of silage could be more simplified than what it is, I made a trial last autumn. Mine is a bank barn. I removed some beams and boarded up roughly the sides, not particular about little open spaces between the planks. I cut some of the corn toward the latter part of the day and took it in the afternoon of the next day, getting rid of more than fifty per cent of the weight. Most of it I cut early in the day and hauled late in the afternoon. I worked leisurely, and took a week to thus fill the

silos. As I filled I stamped around the outside and filled inside without packing. Finally, I threw some pea straw on top, about a foot deep. The silage turned out very well and is much relished by the stock, they preferring it to well-cured clover hay. The cow gives milk as if she were on pasture. To get the silage out, I use a hay-knife. I cut in streaks a foot wide, which enables me to easily handle it with a fork. I used the King corn and let it get too ripe, which has occasioned some waste; but were sweet corn used and cut in the glaze, every bit would have been eaten up.

My silo was about fourteen feet square, and as deep. I found I could have put four times as much as I did into it. By putting in the corn as cut, there is saved the trouble of husking and shelling; and the cob being soft, is eaten up. It is held by feeding on such silage a cow may be kept for three cents a day in good condition, so milk and butter will soon cost us very little.

W. ARNOLD.

LUMP-JAWED CATTLE IN THE CHICAGO STOCK-YARDS.

DR. H. J. DETMERS.

MONTICELLO, ILL., Jan. 24.—The Farmers' Institute closed its session here to-day. The Hon. S. W. Allerton introduced a set of resolutions denouncing the conduct of the state live-stock commission with regard to lumpy-jaw cattle and they were adopted. They are as follows:

"WHEREAS, The live-stock commissioners of Illinois have assumed the authority to condemn and destroy good, fat, healthy steers at the Union stock-yards which are only affected with a small lump on their jaws, under the pretense of preventing the spread of contagious diseases; and

"WHEREAS, We are informed by the address of Prof. D. McIntosh, veterinary surgeon of the Illinois university, delivered before this institute, that the disease called lump-jaw in cattle is not contagious, and that the flesh of such cattle is not unwholesome food so long as the animal is in thriving condition and fats well; and

"WHEREAS, Years of experience with cattle convince us that his conclusions are correct;

"Resolved, That we consider the action of the live-stock commission in condemning such cattle and consigning them to the rendering tanks as a high-handed outrage, resulting in the robbery of farmers and producers and enriching the Union Rendering Company of Chicago; and we respectfully request the governor of Illinois to make prompt investigation into the matter and take steps to stop this unjust and arbitrary exercise of power by the live-stock commissioners.

"Resolved, That the secretary send a copy of these resolutions to the governor of Illinois."

—Chicago Daily News.

I have time and again drawn attention to the fact that "lump-jaw" is only a local disease and does not affect the beef. In Germany and other European countries thousands of such cattle are butchered every year, and, still, there is not a solitary case on record in which actinomycosis has in that way been communicated to human beings. The condemnation of lump-jawed cattle in the Chicago stock-yards is nothing but buncombe. The millionaire packers want to make people believe that animals, whose meat is unfit to eat, are promptly condemned, and "lump-jawed" cattle afford the best scape-goat. Such a swelling in a steer's jaw is easily seen and easily diagnosed while the animal is yet in the hands of the producers or of the small dealers, and its condemnation don't hurt the millionaire monopolists, but animals affected with other diseases, which are dangerous to human beings, for instance, cattle affected with tuberculosis, or hogs affected with swine-plague or with trichinosis, are not condemned. These diseases cannot be diagnosed fifty yards off, but require close examination, not only while the animal is yet alive, but also after the same has been butchered. The diagnosis of trichinosis, for instance, requires a microscopic examination of the meat. These diseases, therefore, are not discovered until the animals have passed into the possession of the monopolist packers, and it would never do to condemn anything that belongs to them. Their squeal might be heard all over the country, and an inspector that would hurt their business would surely be ruined. The condemnation of lump-jawed steers is a humbug, but it is allowed because it only hurts the farmers, and not only serves the purpose of the monopolists, but also enriches them, because the carcass of a big, fat steer is of considerable value to the rendering company, which, of course, is under one hat with the monopolist packers. Thanks certainly are due to Mr. Allerton for his courage, or—has he fallen out with the Big Four?

Our Farm.

GARDEN GOSSIP.

BY JOSEPH.



SWEET POTATO PLANTS.—The production of a fair crop of sweet potatoes in suitable soil and location is a simple enough matter, provided you have good, strong plants at the proper season. Plants bought at a distance, and shipped hundreds of miles, often poor from the start, and greatly hurt by rough handling, exposure and wilting, are not such plants as would satisfy me; and while it is not impossible to ship any kind of vegetable plants long distances, and have them reach their destination in first-class conditions, I have usually much better success with plants grown by myself than with plants purchased from a distant dealer.

Here at the North we hardly ever have the conveniences to keep sweet potato tubers for seed over winter, even if we manage to have them nicely ripened in the autumn. So we will have to send for them to some growers a few degrees farther south. A few pounds of tubers well handled will give plants enough to raise what sweet potatoes an average family may want to use; and I always prefer to buy the tubers from a distance, and raise good plants, than to run the risk connected with buying plants from a distance.

It takes at least six weeks to grow the plants in a good hot-bed; and since the proper time for setting the plants does not begin until the ground has become thoroughly warm, or about June 1st in this latitude, the bed should be arranged in the earlier part of April. A good, strong, bottom heat is required, and consequently the manure layer should not be less than 20 to 24 inches in depth. This layer is to be covered with a few inches of sand, the tubers spread out in single layer, so they will almost touch one another, and covered with three or four inches more of clear sand. If sand is not handy, sandy loam will answer. Now keep the bed warm, giving ventilation in bright, warm days, and airing more and more as planting time draws near, in order to barden the plants. They are simply pulled up when wanted, the largest and best developed first, thus giving the later ones a better chance to grow until their turn for being pulled up comes also. All this work does not require especial skill, nor a great amount of care and attention.

RAISING SWEET POTATOES.—The usual way is to mark out furrows four feet apart, in warm soil and exposure, to put good, barn-yard compost thickly in the furrows, then ridge up the soil over the manure by means of plow or hoe, and set the plants about two feet apart along the top of ridge. The operation of planting can be done most safely as follows: Select good, stout, well-rooted plants. Dip their roots in water, then distribute along the row, and immediately plant by inserting the plant into a hole made into the center of the ridge with the index finger, and pressing the soil firmly about the roots so that a cup-like depression is left, with the plant standing firmly in the center. A little water may be poured into this cup, afterwards. I have frequently used "fertilizer" (some good special potato manure) with very excellent success. Common, good cultivation is given. In hoeing, the soil is drawn up to the plants; and when the vines have begun to run, they should be occasionally lifted up from the ground to prevent them from taking root between the rows or hills, as they are otherwise very apt to do. On the approach of the first fall frost, the vines are cut off a few inches above the surface, and the tubers lifted out with spading fork or other convenient tool. Care should be exercised to prevent bruising the tubers, as every bruise or cut invites speedy decay.

EARLY CABBAGE.—I believe I have already stated in an earlier issue of this paper, that I have not yet found a cabbage that would be likely to replace the Early

Jersey Wakefield as an early market sort. The Etampes and Express, so highly lauded by seedsmen, did not prove earlier, in my trials, than the Wakefield, nor were they as large and solid. A recent bulletin of the Ohio Experiment Station tells a very interesting story in this regard. These and other early varieties of cabbages were given a very extended trial on the grounds of the station, both in 1888 and 1889. The Early Wakefield proved in every instance superior and more reliable than either Etampes or Express, as it also had done in tests made at the New York Agricultural Experiment Station in 1886.

A whole string of new introductions were also found so closely resembling the Etampes, that they should be stricken from the list. The Ohio station comments on them as follows (in extract):

"*Buist's Earliest*" (Buist). Clearly a strain of Etampes, and have given very indifferent results here. Heads soft, but few being marketable.

"*Extra Early Advance*" (Burpee). Apparently the same as Etampes; certainly no better.

"*Everitt's Earliest of All*" (Everitt). Appears to be Etampes under another name.

"*Faust's Earliest of All*" (Faust). No difference could be seen between this and Etampes.

"*Johnson & Stokes' Earliest*" (Johnson & Stokes). Does not appear to differ from Etampes. The "Wonderful," from the same source, may be a selection from the above, but does not differ from it materially.

"*Landreth's Earliest*" (Landreth). Must be classed with the Etampes, as it has the same general characteristics, although it varies greatly. Ten different forms were noted, last season, in a lot of 150 plants, but the majority resembled Etampes more than any other. One of the most reliable of its class, the greatest objection to it being the wide range in time of maturity.

"*Premier*" (Henderson). Has much the same characteristics as Etampes, but is dwarfier in growth.

"*Rawson's Volunteer*" (Rawson). No difference between it and the Etampes was observable.

"*Salzer's Earliest*" (Salzer). Seed procured in 1888 was mixed, but appeared to be a strain of Etampes; that received in 1889 was Early Jersey Wakefield, apparently.

Here we have ten different varieties, introduced with great claims, and not a single one strikingly different from the Etampes, which is the name that should be applied to all; besides, we have no earthly use for any of them. There can be no doubt that the introduction of these sorts has cost the gardeners of this country a round sum of money, and a good deal of vexation. And then this confusion of names, when our list of varieties is overloaded already. Yet it is not very likely that these seedsmen have willfully sent out an old sort under a new name. Undoubtedly, they were imposed upon by somebody. But now that the true standing of the sorts named has been discovered, it may well be hoped that the respective catalogues will in future be purged of the offensive names. In the meantime we have learned that if we want a good, first, early cabbage, we must plant the old reliable Early Jersey Wakefield.

The horticulturist of the Ohio station recommends the following varieties for general cultivation: All Seasons, Chase's Excelsior, Deep Head, Early Wakefield, Early Summer, Fottler, Henderson's Succession, Louisville Drumhead, Low's Peerless and Winningstadt. My own experience corresponds so nicely with these statements and recommendations of Prof. Green, that I felt it a duty to call attention to them, to put our readers on their guard.

THE EARLY RUBY TOMATO.—I am told by Messrs. Peter Henderson & Co., of New York City, that their new "Early Ruby" tomato is not the variety I had in view when saying, in a previous number, that I have grown it for several seasons. This "Early Ruby," so the introducers say, is emphatically a variety for market gardeners who desire to put the crop on

the market as early as possible. The foliage is thin and open, resembling in this respect the King of the Earlies. I advise all market growers to give it a trial, for if the fruit will turn out to be better, and perhaps larger, than King of the Earlies, there may be a bonanza in the "Ruby" for all who have access to an early market at big prices.

Orchard and Small Fruits.

CONDUCTED BY SAMUEL B. GREEN.

SUNDAY WORK IN BERRY GROWING.

Rev. J. S., Davenport, Iowa, writes: "Mr. L. B. Pierce, I am thinking of engaging in the berry business in order to get outdoor exercise, but I am told that I shall be compelled to gather the fruit on the Sabbath, or suffer loss. This I should not like to do. Is it necessary? I should be greatly obliged if you would give me your experience through FARM AND FIRESIDE."

There is very little necessity for gathering fruit on the Sabbath, but it is sometimes a profitable convenience and a boon to the community to be able to put table fruits into the groceries by 10 A. M. Monday, and if one lives more than one hour's drive from market. Personally, I do not pick berries on Sunday, save for family use, and at rare intervals for some neighbor who has unexpected company, and wishes a few berries for dinner.

There is no necessity whatever for gathering raspberries and blackberries on that day, if the grower keeps well up with the ripening, as one day's delay will cause but a trifle loss, the fact being that as a general rule both berries are put upon the market too green. With strawberries it is a little different, as they are not only liable to get overripe, but the marketing of three days' ripening on Monday evening or Tuesday morning often causes a glut and a decline in prices in markets that are not fully supplied later in the week. If Friday and Saturday are rainy, then Sunday picking seems as necessary as any other work, like chores, etc.

In berry growing as in anything else, the amount of Sunday work depends largely upon the disposition of the grower. In nothing does human nature exhibit itself in so many marks as in the question of labor on the Sabbath. The good Quaker people of western Belmont county, Ohio, who last year shipped 15,000 bushels of berries, will not pick on this day, but they load whole trains on Saturday for the B. & O. road to draw to market on the following day.

Last year, in bargaining with a woman for her children to pick berries, she stipulated that they should not pick on Sunday. We commenced on Monday morning, and her oldest boy was missing. Inquiry revealed the fact that he had played base ball nearly all day Sunday, and was so stiff and lame as to be unable to work on Monday.

One of the largest growers of berries in a market where I sold some years ago, complained, one Tuesday, of the glutted condition and low prices of the strawberry market. Said I, "The remedy is in your hands. You do more than half a dozen small growers to depress the market. If, instead of picking 40 bushels of berries on Monday and marketing them on Tuesday morning, you picked 35 on Sunday and distributed them among the groceries on Monday morning, you would not only prevent Tuesday's glut, but get half a dollar more a bushel on both Monday and Thursday, and thus benefit yourself while it would help the small producers of five bushels a day, who could not affect the market if they tried." He answered very shortly that he didn't pick berries on Sunday. I was sorry I made the suggestion, and felt that I had wronged the man and lowered myself in his esteem by doing so. A few days later I heard him giving a grocer, whom everybody hated, a piece of his mind in such a far-reaching and carefully arranged burst of profanity that had he not been a young man I would have been certain that he once served as a mule driver in the Army of the Potomac. When I got a chance I asked him how he could consistently have conscientious scruples about Sabbath work when he allowed himself to be so profane.

"Oh," said he, "it's not me, it's my neighbors; they all go to church and Sunday-school, and I can't get pickers."

I live in a community where many farmers keep large winter dairies, and the daily labor is equivalent to the work of one man seven hours. Where they are church goers, as many of them are, their Sabbath programme is to get up at six, feed, eat breakfast and go to the factory. Then they dress, hitch up and go to church, returning after Sunday-school, and where two or more miles distant, arrive at home at 1:35 P. M. An hour suffices for putting up the team and eating dinner, when the chore clothes must be donned and chores done until six o'clock, when, after a bit of lunch, it is time to get ready for evening service, and it is generally 9:30 before the team is put in for the night and the Sunday's work of fifteen hours completed. These dairymen are as much seven-day workers as are the street-car drivers in the city of Cleveland, and Sunday is the busiest day of the week; yet they would lift their hands in holy horror if I should put a gang of seven pickers into my berry patch for a single hour on Sabbath morning, or chop fuel for the greenhouse three or four hours in addition to my regular chores, which average less than an hour and a half daily.

In a village near me is a sewer-pipe factory employing thirty hands. Some keep a horse, some keep a cow, but many have no chores whatever, so that the combined Sunday chores do not probably exceed twelve hours' work of one man. Four of the men are required to run the kilns on Sunday, making forty-eight hours, or, altogether, an average of two hours per man of Sunday labor performed, or five hours less than many farmers do; yet these same farmers look upon the owner of this factory as a man who gets his living by Sabbath desecration, and who will some day be punished for imperiling the souls of his fellow men.

But to return to the berry question. My reverend friend will find that, while he does not have to pick berries on the Sabbath, he or some muscular member of his family will have to sit under a tree or in some fence corner all day and fight flies and mosquitoes and drowsiness while he protects his berries from the depredations of Sunday loafers, who like to eat berries fresh from the bushes. L. B. PIERCE.

INQUIRIES ANSWERED

BY SAMUEL B. GREEN.

Gooseberry Bushes.—H. W. R., Crossville, Ill., writes: "Have some gooseberries that have been set out for about six years. Will it do to separate the bunches and set them in another place, or would it be better to cut the old ones out and dig up the ground and put manure around those remaining? What will keep the worms off the leaves?"

REPLY:—Your gooseberries should have all the grass and weeds kept away from them, and should have a good, heavy coating of barn-yard manure forked in around them. Prune out much of the old and weak-looking wood, leaving six or eight good, strong, healthy shoots to each plant. Such treatment as this is necessary to insure crops of good quality. You can separate a few of the roots if wanted for another place, but it is a much better plan to buy new plants or to grow them from cuttings. As soon as the worms are seen, they should be dusted with white hellebore, which may be bought of most druggists. This should not be used after the fruit is ripe, for it is poisonous; but after the fruit is ripe, the common insect powder applied just at night is sure and safe, though somewhat more expensive than hellebore.

Fruits for Northern New York.—Mrs. H., Sterling, N. Y. (1) Try the Turner and Cuthbert for red raspberries; the Souhegan for a black cap; the Ancient Breton and Snyder for blackberries; the Moore's Early and Lady for grapes. If the grape vines are injured by the winter, you had better lay them on the ground late in the fall, after pruning, and cover them with three inches of soil. For strawberries, use Crescent Seedling, with every other row of Downer's Prolific or Captain Jack. Also plant a few Sharpless. (2) Yes, the Storrs & Harrison Co. is a good concern, but you had better buy of some northern or near-by nurseryman. Plants from them would probably do well, though it is generally best to get plants from some district north of you instead of south. (3) A good, rich, mellow soil, well drained, is best for a general fruit garden. The varieties recommended are very hardy and worthy of cultivation, but if you were acquainted with the experience of growers in your neighborhood you could probably make a much better selection.

SUPERIOR DRAIN TILE.

No concern is better equipped with the latest improved machinery or facilities for making superior drain tile than Messrs. Jackson Brothers, of Albany, N. Y. It is the most extensive of the kind in this section of the country. The best posted farmers buy their tile of this firm, who guarantee satisfaction, and whose tile is unexcelled in hardness, straightness and strength. Established in 1832 their reputation is the highest, and we cordially recommend our readers first to write Jackson Brothers before concluding a contract elsewhere.

Our Farm.

THE POULTRY YARD.

Conducted by P. H. Jacobs, Hammon-ton, New Jersey.

BUILDING A HOME MARKET.

FOUR years ago, ducks in the New York market brought a very low price, and "green" ducks were unsalable. The market was oversupplied, and those who had raised large numbers of early ducks, with the expectation of securing good prices, were disappointed. But the overstocked market proved a benefit in the end, for persons who had before never enjoyed the luxury of green ducks (young ducks) were induced to purchase, the result being that during the next season more ducks were in demand. The people had really been educated to a knowledge of the excellence of early ducks by the low, tempting price. As the demand increased, so did the price, and now the market receives all that is sent, and good prices are paid. This should teach a lesson. What is to prevent the building up of a demand nearer home by calling the attention of buyers to choice stock, instead of shipping long distances. We believe that there is a sale for poultry and eggs in every section, if producers will attempt to create a demand by offering something better than the markets afford.

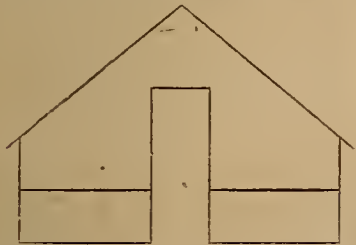
USING THE WASTE.

The hay seed, broken leaves of clover and damaged grain of all kinds can be utilized for feeding poultry to better advantage than to allow it to be thrown away. One of the reasons poultry pays on some farms is because of the vast amount of waste food consumed and converted into eggs and meat. There is no necessity for feeding poultry a large portion of the year when the barn-yard is accessible to the hens. Even the droppings of cattle are made to yield something to them. When, however, the hens are unable to procure all they desire, the farmer must come to their rescue with a supply from his granary.

A BROODER-HOUSE.

Mr. A. J. Aldrich, Orlando, Fla., sends a sectional view and ground plan of his brooder-house. For a cold climate it should be double boarded. The house may be built of any material preferred.

As no description is necessary, it may be made plain by stating that A, A, A, A, represent rooms covered with lath, and made movable. B, B, B, B, etc., are yards. S, S, are two movable sash over the brooder-rooms, for ventilation, and they can be raised or drawn forward. E, E, are passage-



SECTIONAL VIEW OF BROODER-HOUSE.

ways, 4x6 inches, into brooder-rooms. The left side of the house is for large chicks, and has no glass. Each yard outside is covered with a wire top, or of lath, so that they can be lifted up. There is no floor except earth. The doors, 5x9 inches, into the larger yards, are shown at O, O, O, O. This brooder-house is for hens having broods.

CRACKED WHEAT FOR CHICKS.

Feed stores now keep cracked wheat in stock, as there is quite a demand being made for it by those who make a specialty of raising chicks for the early supply in market. It is just the thing for very small chicks, and it is eagerly eaten by them. For chicks in a brooder, the cracked wheat is put in a little trough, so that the chicks can help themselves. It is fed dry, and consequently requires no preparation, which is quite an advantage, considering the labor required for preparing food for a large number of chicks. When chicks are with the hen, the best way to feed

cracked wheat is to place it on a board and allow the chicks to eat it at will. The board must be kept clean, by being brushed off daily. A little sharp, coarse sand, ground shells, or some other kind of sharp grit, should be given with the cracked wheat, as chicks need something of the kind as well as fowls, and if not supplied they may have bowel disease. Of course, in feeding the cracked wheat there is nothing to prevent a variety of other food also.

THE BEST FATTENING RATION.

In those sections where sweet potatoes are grown easily, the use of small potatoes for poultry will make an excellent ration for fattening poultry intended for market. Cooked potatoes thickened with corn meal will put more flesh on a hen in the shortest time than any other food known. In fact, any kind of food rich in sugar will fatten stock or poultry quickly, and there is nothing superior to sweet potatoes for that purpose. Such food, however, is not suitable for laying hens, as with them fat is detrimental to laying.

MUD IN THE POULTRY-YARD.

In the winter we not only have the rains and snows as obstructions to poultry raising, but we also have the disagreeable mud, which remains sometimes for days.



GROUND PLAN OF BROODER-HOUSE.

The hen feels this difficulty severely, as she is closer to the ground and cannot so easily escape from it, compared with humans, and to avoid as much of the mud as possible, the yard should be drained, and the use of coal ashes to fill up the holes will be found serviceable in assisting to prevent mud.

CORRESPONDENCE.

A CHOLERA REMEDY.—I notice a great many inquiries for a remedy for chicken cholera. I have one which we have used for ten or twelve years, and I have never known it to fail curing the worse cases. I have cured them when their combs would be almost white. Half pound flax-seed meal, three ounces cayenne pepper, two ounces rhubarb, two ounces powdered blue mass, three ounces rosin; mix, and give three tablespoonfuls mixed in a gallon of meal. Feed twice a week. Make a dough of the meal. If they are too sick to eat, take as much of the mixture as will lay on the point of a pen-knife and give to the chicken. Mrs. S. L. W.

A DEVICE FOR WARMING THE WATER.—I want to tell you of a little device of mine that works to perfection. I have a heater that is just the thing to keep water from freezing for poultry. Take a nail-keg, dig a hole in the ground floor of the poultry-house, set the keg half of its length in the ground, get a pan that will fit into the top of the keg tight, so there will be no waste of heat. Bore an inch hole in the keg, near the ground, on one side, and near the top on the other, for draft, and set a small lamp in the keg, on a brick or two, sufficient to bring the lamp close to the bottom of the pan. Set the pan on, fill up with water, and you have a chicken fountain that will defy cold weather, and will not cost over one cent a day to run it. Now, I will venture to say that I don't believe there is one flock of chickens in twenty that get the amount of water they need in cold weather, but by this simple and inexpensive device it becomes a pleasure to water poultry, and there is not the least danger of fire. A. W.

Randall, Iowa.

KEEPING CHICKS OUT OF THE BARN.—I send a description of my hen-house and hog-sty combined. The full length of the building is twenty-six feet and two stories high; the width is twelve feet. Twenty feet of the lower story is used for a hog-sty, and six feet off one end is for the hen-roost. The top floor is laid with matched lumber. In one corner of the hen-roost there is a trap-door, so that in cold and snowy weather the fowls can go up to the top floor without going outside. I always keep a lot of clean litter on the floor and throw feed in. The side faces the south, with three windows in, and a lot of nests around the wall. This does away with chickens in the barn, as it is no place for them. Z. W. B. Bryan, Ohio.

INQUIRIES ANSWERED.

Pure Breeds.—E. B. S., Evart, Mich., says: "I have Black Minorcas and wish to raise chicks that are pure, but I have hens of other breeds with them. Will that in any manner prevent my Minorca chicks from being pure?"

REPLY:—If you use only Minorca males, the eggs from the Minorca hens will give you pure-bred chicks.

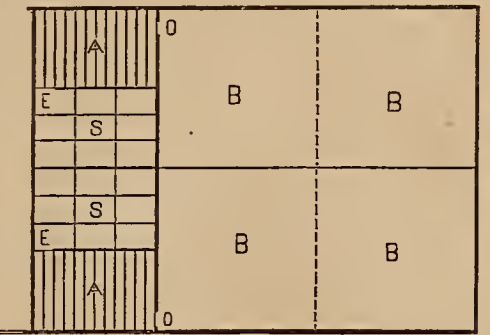
Number of Eggs.—C. H. P., South Rehoboth, Mass., writes: "How many eggs do Langshans average and how many for Black Minorcas? Do the White Minorcas lay as many as the Blacks?"

REPLY:—Langshans should average ten dozen eggs per annum and Minorcas a dozen more. Much depends upon the conditions. The Whites are fully equal to the Blacks.

Result of Overfeeding.—H. P. D., Greensboro, N. C., writes: "My fowls have ample range and have all they wish, with the same chance as my neighbors. I never get an egg from August to April. I have tried all the breeds, with the same result. My neighbors' hens lay the year around. There is something lacking, as the eggs have thin shells and the whites watery. They are not fat most of the time. I feed corn and wheat screenings, potato scraps, etc. Would you advise feeding lime or anything of the kind?"

REPLY:—It is probable that you are mistaken in supposing the fowls are not fat, as it is seldom a hen lays a soft-shelled egg unless she is fat. Cease the corn and wheat for awhile, and give a light feed of ground oats and potatoes at night, with a small quantity of bone meal in the mess. Feed nothing in the morning.

The Gray Lice.—A. B. B., Norwich, N. Y., writes: "I keep about twenty-five hens, and raise chicks also. I have lost as many as one half of my flock. The combs turn dark, they droop around for days and sometimes for months, and then die, first becoming very poor."



GROUND PLAN OF BROODER-HOUSE.

REPLY:—The symptoms are those which show the presence of the large, gray lice on the heads and necks, the best remedy being to apply sweet oil on those parts, close to the skin.

Guineas.—H. A. H., Wilmet, Kan., writes: "Is it necessary that guineas be paired in order that the eggs of all females should hatch?"

REPLY:—It is better to have the sexes equal, but the male will mate with more than one female, should there be more females than males, and the eggs from the entire flock of females will hatch.

How to Operate an Incubator.—J. K., Mickleton, N. J., writes: "Would you be so kind as to tell us how to run an incubator; also a brooder? Which is the best, a hot-water or hot-air brooder?"

REPLY:—It would require large space to give a reply. By writing to P. H. Jacobs, Hammon-ton, N. J., and enclosing stamps for postage and stationery, you will receive illustrated plans, with directions for operating, free of charge.

Bremen Geese.—F. M. T., Willshire, Ohio, writes: "Are Bremen geese better than the gray or common goose, and can they be picked as often as the gray goose?"

REPLY:—They are twice as large and can be picked as often. They are also known as Embden geese.

Difficulty with an Incubator.—H. L. M., Seattle, Wash., writes: "We use an incubator, but with very little success, and have wasted hundreds of eggs. Usually, the eggs have nearly all contained at hatching time fully-developed chicks, but they do not seem to have sufficient vitality to get out of the shell. Sometimes, if we cracked the shell, the chick would live two or three days. We have changed breed, and bought eggs, with no success. We have tried giving more air and more moisture by placing moist sponges on a wire in the egg apartment."

REPLY:—Difficulty may be due to incorrect thermometer. Give no moisture the first week. When eggs begin to pip, shut the drawer and keep incubator closed until hatch is over, as cold draughts are fatal when chicks are hatching. Give plenty of moisture after the eighteenth day.

Preserving Eggs.—G. F. E., Munden, Kansas, writes: "I would like to know the best way to pack away eggs in summer time for winter use. Perhaps some of the readers of the FARM AND FIRESIDE could give some of their experience in packing eggs."

REPLY:—Place eggs on trays, in a cool place, and turn them twice a week. It is the best method. We will be pleased to hear from our readers on the subject, also.

Sundry Questions.—W. W. K., Russellville, Ark., writes: "Can you inform me why my hens don't lay, or, rather, more of them? They have free range, plenty of pure water and green grass and clover (all wild) and all the corn they will eat, no other grain. Is fine sawdust good to use in nests instead of straw? Is it necessary that all of the eggs should be put in an incubator at once?"

REPLY:—No doubt the feeding of the corn to hens on a free range has made them too fat. Cut straw is better than sawdust in the nests. All the eggs should go in the incubator at one time.

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EXTRACTS FROM CORRESPONDENCE.

FROM WEST VIRGINIA.—Marion county has plenty of coal, petroleum, etc., and is one of the greatest coke fields in the state. Several new oil wells are going down here now. We raise corn, wheat, rye, oats, millet, etc. Wheat is about 80 to 85 cents a bushel; corn, 50 cents; potatoes, 60 cents. We have a well-timbered country, a good, healthy climate, and rich soil.
Mannington, W. Va. H. T. H.

FROM KENTUCKY.—Central Kentucky is a good country for tobacco and hemp, also wheat, corn, barley, oats, flax, Irish and sweet potatoes and all kinds of vegetables. Blue grass grows everywhere except where the ground is cultivated. We have good water and plenty of it. We have about 100 miles of good turnpike roads in Garrard county. It is the best country I ever saw, taking everything into consideration.
J. L. R.
Marksburg, Ky.

FROM ILLINOIS.—Union county made larger shipments of fruits, berries and vegetables last year than any other county in the state. We have two fairs annually, one county and one association. This is an excellent place for men of enterprise and capital. There are but few farms for sale in this county. However, a few good farms can be bought for from \$1,000 to \$3,000. One man close to me sold last year from twenty acres of land nearly \$1,200 worth of produce. We have a healthy location as there is between the Ohio and Mississippi rivers.
H. A. J.
Anna, Ill.

FROM WISCONSIN.—Marquette county is situated along the Fox river, and is all timber land with oak openings. Wisconsin takes the lead in farmers' institutes. More interest is taken in late years in raising clover, and our land is steadily advancing in value. Clover seed, last year, yielded from three to twelve bushels per acre. Several of my neighbors hulled seven bushels per acre. This is a healthy country. Our soil is variable—some hard clay and some sandy. Our greatest drawback is the long winter.
E. M. G.
Oxford, Wis.

FROM KANSAS.—I have been in Kansas twenty-one years. In this county the people are heavily mortgaged and have had only five good crops in twenty-one years. Corn is worth from 10 to 15 cents per bushel. This country has been advertised so much that nearly everybody that comes is disappointed. I like your suggestions that correspondents give both sides of their country. Some of them don't tell any of the drawbacks. I have one paper before me that has twenty-eight sheriff's sales and seventeen foreclosures advertised, and the same paper puts that county as the garden spot of Kansas.
W. H. H.
Yates Center, Kan.

FROM NEBRASKA.—Hamilton county is a good farming and stock-raising country. We find that it pays better to ship fat cattle and hogs than to ship grain. Prices are low now. Corn is 40 cents per bushel; oats, 12; barley, 40; flax seed, \$1; fat cattle, \$2.50 and \$3.50 per hundred weight, and hogs, \$3.50; butter, 15 cents per pound, and eggs, 18 cents per dozen. I came here in 1878, when this was a new country, and have seen wonderful changes. Railroads have been built, thriving towns have sprung up, and where the sod house used to stand, on the open prairie, are now seen frame houses and barns, and groves. The soil is a deep, dark loam. Land is selling from \$25 to \$45 per acre.
A. T.
Stockholm, Neb.

FROM KANSAS.—Our soil is a deep, black loam. We raise corn, winter wheat, oats, flax, millet, sorghum, timothy, clover, sweet and Irish potatoes, peaches, apples, pears, blackberries, raspberries, strawberries, gooseberries, grapes and everything else grown in the same latitude. Land is worth \$20 to \$40 per acre. We have the best of society, good churches and schools. Hutchinson has large salt wells. The prospect is good for wheat. I am not a politician, but I am going to vote for the farmers' rights, if there are any to vote for. Let us stand shoulder to shoulder. I think there is a better day dawning for us. Let us contend for our rights. We want only what rightly belongs to us—but we want that, and want it bad.
W. S. E.
Andale, Kansas.

FROM KANSAS.—Morris county lies in the great corn belt of Kansas. Council Grove, the county-seat, has a population of 2,500. Morris county raised over 3,000,000 bushels of corn last year. More wheat was sown in this county last fall than ever before. We boast of fine cattle, horses and hogs. Our agricultural society is flourishing. The Farmers' Alliance has a large membership. We meet every Wednesday night, and have a discussion of farm topics at each alternate meeting. We have interesting meetings, and farmers are happy, even if corn is 15 cents per bushel. Morris county raised an enormous fruit crop last year. At Council Grove there is a canning factory, which did a rushing business last season. Land sells from \$10 to \$50 per acre, according to location and improvements. We

have excellent schools. There is a good class of people living here, and we extend a hearty welcome to the immigrant. The railroad facilities are good. The climate is salubrious.
Kelso, Kansas. F. W. H.

FROM WASHINGTON.—Washington, with the rest of the Pacific coast, has had a large amount of rain this winter. There was a deficiency of rainfall here for two seasons before, and last season's crops were nearer a failure than ever known before. Wheat averaged about 15, oats 35 and barley 35 bushels to the acre. In six harvests before 1889, I never knew a crop of wheat to yield less than 18 bushels per acre. Wheat is 50 cents per bushel; oats, \$1.25 per 100 pounds; barley, \$1 per 100 pounds; hay, \$18 to \$25 per ton. Land, improved, is worth \$20 to \$25 per acre; unimproved, \$10 to \$12. It is nearly all rolling prairie land in Whitman county. There are no government lands in this county, except in the western part, where it is only fit for grazing. Apples, pears, plums, prunes, cherries and nearly all the small fruits bear abundantly.
F. R.
Oakesdale, Wash.

FROM KANSAS.—Rooks county, in north-western Kansas, has never been boomed by railroad advertising and is not very well known in the East, but it is a very good place for a home seeker to come to. But let such beware of buying land on which to make a home for himself and family solely on the say so of land agents or speculators. Land is cheap. Good land with fair cultivation will produce from 20 to 40 bushels of wheat per acre, and in the north side of the county, from 30 to 60 bushels of corn. Water can be found almost anywhere, but some places it requires boring to the depth of from 100 to 200 feet, at which depth the water is either soft or slightly salty; the water in shallow wells is hard. The high, smooth lands are the best for all kinds of crops, and the most healthy; side hills and ravines are shaly and poor; bottom lands are fairly good, but mostly quite sandy. Health is not so good on low lands along the creeks and rivers. Fruit trees do well when grafted on whole roots. Piece-root grafts do not root sufficiently to support the trees.
A. L.
Stockton, Kan.

FROM IOWA.—North-eastern Iowa is a very good farming country, and a beautiful country to look upon. The seasons are fine except winter, which is usually cold. Soil is a black, rich loam. I have been in this county thirty-five years and have never seen a failure of crops. We have occasionally a short crop caused by drouth. All the grasses peculiar to this latitude do remarkably well. Grass, corn and oats are the main crops. We usually feed our grain and hay to cattle, hogs and horses, for which we have a good market. Corn produces from 30 to 100 bushels to the acre; oats, 25 to 100; hay from one to three tons. Land can be leased for from \$1.25 to \$2.50 per acre. We have plenty of good, pure water for all purposes, also timber enough for all uses, at reasonable rates. Land sells at from \$15 to \$50 an acre. Corn is worth 20 cents to 25 cents; oats, 17 to 18. We nearly always have good roads. There is no hard pan under the soil and the surplus water is absorbed at once. It is common, after a heavy rain, for the roads to be dry within twenty-four hours.
R. E. B.
West Union, Iowa.

FROM IDAHO.—In June, 1889, I left the state of cyclones and blizzards and settled at Moscow in northern Idaho, a fine little city of 1,500 inhabitants. It is located in as good a farming country as there is in this western country for all kinds of farm products except corn. All kinds of fruit grow here, prunes and apricots being a sure crop. We have fine, soft water and plenty of timber, such as pine, red and white fir, cedar and tamarack. This is a very rough and mountainous country, but the soil is excellent. Our winter was a fine one, no sudden changes, and but very little wind. We had about two feet of snow and six weeks of fine sleighing. Our spring generally commences here about the middle of February. Farm hands get \$35 per month and board, common laborers get \$2 per day, and mechanics get from \$3 to \$5 per day. Improved land is not very high. Wood sells at \$3.50 per cord; wheat, 52 cents per bushel; flour, \$2 per hundred; potatoes, \$1.50 per hundred; apples and all other kinds of fruit, one and a half cents per pound. Cows sell at \$30; horses, \$50 to \$100; hay, \$12 to \$20 per ton.
J. N. P.
Moscow, Idaho.

FROM OHIO.—Darby plains, not more than twenty miles square, situated in central Ohio, embrace part of Madison, some of Union and a very little of Champaign counties, and is one of the best localities to be found for grazing and corn raising. It is level. The streams of Little and Big Darby, Spring Fork and a few other smaller streams in the southern part meander through it. Its soil is generally black and deep. Its timber is largely bur oak and well scattered. About three fourths to seven eighths of the land is used for grazing and hay. Our stock is mostly cattle, largely Short-horn grade steers; with a little sprinkling of sheep, Southdown and Shropshire being mostly in demand. All the roads are well piked with gravel, hardly a mud road any more. The fences are hoard, especially on the roads. The land is mostly un-

derdrained with tile, which prepares our ground for almost all kinds of grain. Fruit and berries are largely cultivated. Land sells for \$50 or \$60 per acre, unless it contains the better improvements. Our citizens and others going into the West for better localities return, saying that they have seen no better country than this.
A. B.
Irwin, Ohio.

FROM NEBRASKA.—Only eighteen years ago this was an unbroken prairie, possessed by the buffaloes, prairie chickens and rabbits. Now, it is well settled and improved, with plenty of schools and churches. When we read of the steady rain and the depth of the mud in the East, and the floods on the Pacific coast, we are more than ever thankful for our dry climate and good roads. With the exception of the first three weeks in January, the children have played out of doors, without need of rubbers, nearly every day. Of course, the wind blows here, but if it were to quit entirely, it would make an outcry among the cattle raisers, for wind-mills are their dependence for watering. The last summer showed that fruit can be grown successfully here; all kinds bore well. I never saw finer peaches than grew in our garden. Land ranges from \$10 to \$50 per acre. The Alliance people are quite active out here. They run an elevator at Hampton. Land is generally ready for the plow as soon as the frost is out of it. Very seldom do they have to wait for it to "dry off" any. Renters get two thirds of their crops, and generally house rent and "truck patch" free.
M. E. C.
Hampton, Neb.

FROM ARKANSAS.—The larger portion of Baxter county is hilly, and the county-seat is appropriately named, Mountain Home. It is a pretty little town of about 400 or 500 inhabitants, ten stores, two churches, good court house, an academy with over 100 students and a good mill. The laws are enforced and the society is good. There is no political prejudice here; every man can vote as he pleases, without the least fear of violence from any political source. Health, off the rivers, is generally good. The soil is of a calcareous nature, requiring a great deal of rain to make good crops. Corn, wheat, oats and cotton are the staple productions. Sweet and Irish potatoes and almost all kinds of garden vegetables do well here. Fruits do well while the trees live. Apple trees seldom bear over six or seven years; peach trees live longer, and small fruits do well. Wells cannot be dug easily, but they can be drilled, and good water found at a depth of from 60 to 100 feet. The range is good, except in the thickly-settled parts. There are thousands of acres of government land which can be used only for grazing purposes; these lands are glad, steep and rocky. The timber is generally scrubby, though sufficient for all purposes. It is fifty miles to the nearest railroad station, consequently the market is poor. Claims can be bought cheap; deeded land ranges from \$3 to \$5 per acre. Deer, turkey and small game are still to be found.
S. S.
Mountain Home, Ark.

FROM NEW MEXICO.—There are thousands of acres of government land in San Juan county subject to entry. Improved lands are worth from \$5 to \$50 per acre. We depend altogether on irrigation, therefore we are not subject to failures. When we need rain, we get it through the irrigating ditch. The soil of these valleys is wonderfully productive. All kinds of vegetables are at home in this soil, with the Irish potato in the lead. Wheat, oats and barley yield well. It is embarrassing to hear some of our farmers tell of the wonderful crops of alfalfa they have raised, but it is generally conceded that six tons per acre is not too high an estimate. We also raise timothy and clover, but they are of little importance compared with alfalfa, the latter being equally nutritious, and giving three cuttings a year. Our fruit industry is an item of great importance, as such fine fruit as we produce cannot be excelled anywhere. Peaches rarely ever fail. Our temperature is very even and mild; the mercury never runs above 92° in the summer, or below zero in winter. Our rainy season is August and September, thus making it too late to do the grain fields any good; but it changes the dry hills and ranges into a green verdure of the finest pastures, where thousands of sheep, cattle and horses live fat the year around. Nature has done much for this part of the universe, and it now remains for the rugged pioneer to come forward and take possession. We are expecting admission into statehood in the near future, which will be a blessing in many ways. The question of land grants, with which this territory is much encumbered, will be speedily settled. Fortunately for San Juan county, there is not a land grant in it. The population of New Mexico is about 135,000, of which 70 per cent are Mexicans. Our taxes are reasonably low, two per cent being the highest. The time is near at hand when woolen factories will be a paying industry for New Mexico. There are no Indians here; the Navajos are on the southwest of us, and the Utes on the north-west. They pass through our settlements occasionally, but are all peaceable, and so far as Indians are concerned, you are as safe here as you are in New York. Bring nothing but your family and their clothing and bedding; for you

can buy everything here cheaper than you can bring them.
L. W. C.
Farmington, New Mexico.

FROM SOUTH DAKOTA.—Sully county, situated near the center of the new state of South Dakota, contains 1,044 square miles of land, the greater part of which consists of beautiful, rolling prairie. The Missouri river is skirted by rugged and somewhat picturesque heights, called buttes. The intervening gulches and the banks of the river are covered with a thick growth of ash and cottonwood trees, plum and buffalo-berry shrubs, grape vines, etc. The plum is especially prolific and affords an abundant crop nearly every year. The quality of this fruit is excellent, and would compare favorably with many tame sorts. The soil of this county is a black, friable loam, rich in humus, and is a strong and enduring soil. The repeated cropping to wheat for a number of years seems to have but slight effect upon it. Wheat is our principal field crop, and yields from ten to thirty bushels per acre, contingent upon rainfall and method of cultivation, the latter being the more important, requiring experience and care, which the farmers are beginning to discover and appreciate. The same may be said of oats, corn, flax and other crops. Potatoes are an almost certain crop, yielding abundantly, due, no doubt, to the fertility of the soil. Melons grow to a large size, and have a fine flavor. They require no cultivation when planted on new breaking. Garden vegetables do equally well, considerable attention being given to the raising of onions, which attain a large size. This county is admirably adapted to stock raising, and considerable attention is being given to breeding horses and cattle. The climate of this locality, for healthfulness, cannot be excelled anywhere, as it is quite free from malaria and atmospheric influences so destructive of health and comfort. Here mud is a nonentity, cyclones a myth, good roads a thing of beauty and a joy forever. The settlement of this county began in the spring of 1883, and continued rapidly until all desirable land was filed upon. Much of this land was vacated after title was perfected and is now unoccupied, and, no doubt, can be bought at reasonable rates. It is our desire that this land be occupied and improved by permanent settlers. All who decide to cast their lot among us will be given a hearty welcome and a helping hand. The present population consists mostly of Americans, from the middle and eastern states, with a sprinkling of Scandinavians. Of the latter, nothing disparaging can be justly said, as they are an industrious, unobtrusive and law-abiding people. This county is the region of artesian water, which can be reached at a depth of from 1,400 to 1,600 feet.
H. L. S.
Okobjo, South Dakota.

A lady who will do writing for me at her own home will receive good wages. Address, with self-addressed stamped envelope, Miss Flora Y. Jones, South Bend, Ind., proprietor of the famous "Blush of Roses" for the Complexion.

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Queries.

READ THIS NOTICE.

Questions from regular subscribers of FARM AND FIRESIDE, and relating to matters of general interest, will be answered in these columns free of charge. Querists desiring immediate replies, or asking information upon matters of personal interest only, should enclose stamps for return postage. The full name and post-office address of the inquirer should accompany each query, in order that we may answer by mail if necessary. Queries must be received at least two weeks before the date of the issue in which the answer is expected. Queries should not be written on paper containing matters of business, and should be written on one side of the paper only.

Glass Milk-Jars.—C. W. M., Cleveland, Ohio. You can get glass milk-jars from A. V. Whiteman, 144 Chambers street, New York.

Tobacco Culture.—B. N., Corydon, Ind. You can get a cheap pamphlet on tobacco culture from the Orange Judd Co., 751 Broadway, New York.

Milking Tubes.—J. J. M., St. Joseph, Mo. You can get milking tubes and also instruments for opening obstructed teats in cows from Wm. Horne, V. S., Janesville, Wis.

Tanning Hides.—J. K., Underwood, Iowa, asks: "How can cow hides be tanned at home for harness?"

REPLY:—We do not think it advisable to undertake the tanning of hides for leather at home.

Fertilizer for Beans.—W. C., Parma, Ohio, asks: "What is the best commercial fertilizer for field beans on clay?"

REPLY BY JOSEPH:—I would apply wood ashes, if obtainable at reasonable rates. Perhaps as good, or nearly so, is a good bone and potash fertilizer.

German Agricultural Paper.—Correction. Our reply to a query in last number contains an error. The *German American Agricultural and Horticultural Journal*, Chicago, Ill., is the only German paper published in the United States, devoted strictly and exclusively to agriculture.

Rye for Green Manure.—J. P., Jackson-town, Ohio, writes: "Would it be advisable for me to sow rye next fall to plow under for beans the following spring?"

REPLY:—Yes, sow the rye as early as you can in the fall, and by the middle of the following May there will be a large growth to turn under.

Burned Bones.—V. D., of Augusta, Mich., asks: "Do burned bones retain all the fertilizing properties there are in powdered or ground bones?"

REPLY BY JOSEPH:—They do not. Fresh bones contain about 4 per cent, or nearly that, of nitrogen. This is lost by burning, and only the phosphoric acid and a mere trace of potash is retained.

Stove Polish—Cement for Glass.—A. G. P., Roscommon, Mich. Mix black lead with the white of an egg and apply it with a paint-brush. When dry, polish with a hard brush. Using glass, one ounce, distilled vinegar, five and a half ounces, spirits of wine, two ounces, gum ammoniac, half an ounce, gum mastic, half an ounce. Mix well. This is said to make a good cement for glass.

Fertilizer for Clay Loam.—Mrs. M. B., of Cleveland, Ohio, asks us to name the best fertilizer for clay mixed with a little loam.

REPLY BY JOSEPH:—Without knowing all the particulars of the case, how the land has been cropped, manured and managed generally for a number of years, I would recommend barn-yard manure, or growing clover, plowing in the stubble and as much growth as possible, at the same time using wood ashes freely.

Cactus.—A. F. B., Lampasas, Tex., writes: "Would it be profitable to plant cactus for stock feed? Does cactus make a good hedge planted under a three-wire fence?"

REPLY:—Cactus is said to be nutritious, but it would hardly be profitable to plant it for stock food, before the invention of machinery of some kind for removing the thorns and preparing it for use. Cactus hedges are in use. But while you are putting up a three-wire fence you ought to put up a complete fence and be done with it.

Heater for Hot-beds.—J. B. R., of Shelbyville, Ill., writes: "I wish to ask what kind of a heater, and of pipes, Joseph would recommend for pit as illustrated on page 140, February number?"

REPLY BY JOSEPH:—Hot-water heaters for use in a very small house and suitable for hot-beds or forcing pit, are now made and catalogued at reasonable rates by a number of furnace manufacturers, as for instance, Hitchings & Co., New York City. For pipes, use common gas-pipe, 1½ or 1½ inches.

Clover as a Fertilizer.—O. M., Tiffin, Ohio, asks: "Will Joseph please tell me how he would use clover with commercial fertilizers for wheat?"

REPLY BY JOSEPH:—A crop of clover is usually considered too valuable to plow under for manure for wheat, and I think I would greatly hesitate to do so. Cut it for hay; then at the proper time plow stubble and young growth under and drill in wheat and fertilizer. Clover sod is in best shape for a succeeding crop when only one year old, and much more valuable than when two years old.

Blue Grass.—J. E., Polk, Ohio, asks: (1) "Will Blue grass thrive here on soil that is clay mixed sand?" (2) When should it be sown? (3) How much seed to the acre? (4) Where can I get it?"

REPLY:—(1) Blue grass thrives best on a limestone soil, but it may do well on your soil. (2) Sow it early in the spring on winter wheat, or with oats. As it takes two or three years for Blue grass to get well set, better sow it with timothy or clover. (3) Sow about one bushel per acre with other grasses. (4) You can get the seed from the seedsmen who advertise in our columns.

Preserving Meat for Summer Use.—E. T. B., Lebanon, Pa. Farmers usually do their butchering before midwinter. The meat is put down in brine for six weeks. It is then taken out, drained, and the flesh side is thoroughly rubbed with finely-pulverized black pepper. It is then hung up and smoked. The smoking should have been done by this time. If you have a good smoke-house, dark and cool in summer, you can leave the meat hanging there without danger from insects. After they are smoked, many put the hams and shoulders, after wrapping them in paper, in paper flour-sacks and hang them up in a cool, dry, dark place.

Hop Culture.—E. B. W., Xenia, Ohio. For 30 cents you can get a pamphlet on hop culture from the *American Agriculturist*, 751 Broadway, New York. It is doubtful if you would find hops a very profitable crop. The climate of your part of the country is not suitable. Hops require a rich soil. They are grown from

sets planted one inch deep about eight feet apart each way. The vines are trained on poles. The best time for planting is early spring. A crop of corn may be raised in the hop field the first year, but after that the entire ground must be thoroughly cultivated. The hops should be picked in the fall before they turn brown, and thoroughly but carefully dried before storing or shipping. Special kilns are used for drying.

Kerosene Emulsion.—T. L. K., Denver, Col., asks what solution is used for spraying fruit trees, and if there is any danger of honey bees being poisoned. The following is Prof. Cook's method of making and using the kerosene and soap mixture: Take one quart of soft soap or one quarter pound of hard soap, mix with boiling water, and then stir in one pint of kerosene oil. Agitate all violently till a permanent mixture is formed. Then add water until the kerosene forms one fifteenth of the entire liquid. This is safe on all foliage, and always reliable. Apply it with a force pump so as to dash it onto the foliage. Fruit trees need not and should not be sprayed with poisonous solutions when in bloom, the only time bees are liable to be poisoned.

Insects on Roses.—E. R. L., Appleton, Mo., writes: "What can I do for my polyantha rose plant (mignonette)? It is bothered by a very small, greenish insect, similar to the cabbage louse, only smaller, scarcely visible to the naked eye. They settle along the ribs of the leaf, which soon turns yellow and drops off. I have used weak tobacco tea a number of times, also strong soapsuds and covered the ground with tobacco. All helped a short time, two weeks or more, then they came back. While free from insects this rose grows nicely. It is the only plant bothered with the insect. Should I reset the plant?"

REPLY BY G. W. PARK:—The insect is probably the aphid or green louse, which is one of the most common foes of the rose. It is very easily destroyed by fumigating repeatedly with tobacco stems. To get the most satisfactory and effective results, however, the plant must be confined with the smoke under a box or barrel. Many persons cannot stand the fumes of tobacco smoke, and we would advise them to use oil of peppermint diluted with water. It is a harmless insecticide, and is effective when thoroughly applied to the foliage. It is not so offensive as tobacco, and gives as good results.

Pea Weevil—Giant Rocca Onion.—C. F. P., Chapman, Kansas, writes: "How can the weevils be destroyed in seed peas to keep the growing crop from being stung?—I have grown some Yellow Giant Rocca onions. If I set them out will they produce good seed?"

REPLY BY JOSEPH:—Plant old seed only, or if you cannot get it, put the new seed in a closed vessel with a little luhach (insect powder), and leave thus for a few days. Or expose the seed to the vapors of turpentine, or bisulphide of carbon (of course, in a closed vessel or box); or throw them for a few seconds in water heated to 180° Fahr. Any one of these methods will destroy the weevils in the seed. Large bulbs of onions raised from seed, if set out in the spring, will produce seed, and if properly treated, as good as any that can be obtained.

Planting Potatoes.—H. K., Creve Coeur, Mo., writes: "I have a piece of timber ground lately cleared. I intend to plant it in potatoes, and cover them with straw about six inches deep. My object in this is to keep them mulched, so as to stand dry weather. I intend to plant them in the usual way and then cover them with straw. What is your opinion of this method?"

REPLY:—If your soil is loose and friable, and well drained, your method will give good results. It will not do very well on a heavy, compact, clay soil. The writer has known of a crop of over 300 bushels of potatoes per acre raised under straw. In this case the soil was suitable. An old Blue grass sod was plowed, planted in the usual way, and covered with wheat straw eight or ten inches deep. The Colorado potato bugs seldom do any damage to the vines of potatoes grown under straw.

Cotton Seed and Bran.—A subscriber of Malvern, Ark., asks: "What is the value of 100 pounds of cotton seed as a fertilizer compared with an equal weight of wheat bran? What value has the cotton plant for plowing under as green manure compared with cow pea or clover?"

REPLY BY JOSEPH:—Cotton seed as a fertilizer is worth about \$1 per 100 pounds, while the same weight of wheat bran is worth only about 60 or 65 cents. Cotton-seed meal has more than double the value of the whole seed. The cotton seed and cotton-seed meal are especially rich in nitrogen, wheat bran especially rich in phosphoric acid, but well provided with the other plant foods also. A combination of the two, cotton-seed meal and wheat bran, will give you a good complete and well-balanced fertilizer. I know nothing about the cotton plant as a fertilizer, but without further inquiry would prefer clover or cow pea.

Lime Applications.—L. F. K., of Middletown, Md., asks: "Who makes the best lime spreader? Would it not be better to apply fresh slacked lime at the rate of 3 or 4 bushels per acre, evenly spread by machine, every time the soil is plowed, than to put on from 25 to 75 bushels per acre at one time?"

REPLY BY JOSEPH:—I do not think very much of lime as manure except in special emergencies. Most soils contain enough of it, and where lime is not present, 3 or 4 bushels of it would not help much. It all depends, however, for what purposes we apply it. If we alternate the application with manure dressings, in order to make the plant food left in the soil available, the application of freshly slacked, or powdered, unslacked lime, at the rate of twenty or more bushels per acre, is not too much, nor would it be, if the acidity of our soils, muck land, etc., is to be neutralized by it. I do not know what machine for spreading lime is best. But if the lime is pul-

verized, as air-slacked, or ground freshly burnt lime, I think any fertilizer-drill, or the fertilizer attachment to a grain-drill, would answer first rate.

Concrete Walls.—E. W., Redwood Falls, Minn. Erect scallings as a guide for the boards forming the mold for the walls. Select cement fresh from the kiln, and sharp sand perfectly clean and free from loam. To one part of cement add two parts of sand, and thoroughly mix them dry. Just before use add water enough to make a thin mortar. Add gravel and broken stones and stir them until the surfaces are thoroughly coated with the mortar. Then immediately place the mass in the boxes or molds on the wall. Or pour the mortar thickened with gravel into the molds and bed the broken stone in it, being careful not to have them touch the sides of the box. Do not mix up more than can be handled at once. The concrete in the walls will set or harden in a few hours, when the boards can be raised and another layer put on. The proportions between the sand and concrete should vary with the quality of the former, from two to five parts of sand to one of the best cement. It is better for the stones to be of various sizes. No permanent framework is needed for the walls. For a wall twelve feet high, twelve inches is thick enough.

VETERINARY.

Conducted by Dr. H. J. Detmers, Veterinarian of the Ohio Agricultural Experiment Station, and Professor of Veterinary Surgery in Ohio State University.

To regular subscribers of FARM AND FIRESIDE, answers will be given through these columns free of charge. Where an immediate reply by mail is desired, the applicant should enclose a fee of one dollar, otherwise no attention will be paid to such a request. Inquiries should always contain the writer's full address. Queries must be received at least two weeks before the date of the issue in which the answer is expected. Subscribers may send their veterinary queries directly to Dr. H. J. DETMERS, 35 King Avenue, Columbus, Ohio.

Pin-worms.—F. H., Knox, Ind. Inject a pint of raw, linseed oil into the rectum of each of your horses. Repeat this a few mornings in succession, and then feed a sufficiency of good and wholesome food—plenty of good oats.

Scab in Sheep.—F. S., Seymour, Iowa. Make a very strong tobacco decoction and apply it locally to the worst places. Do this once a week until the weather becomes mild enough to enable you to "dip" your sheep.

Barron Cow.—J. A. N., Martin, Idaho. Perhaps the best that can be done with such a cow is to fatten her and to send her to the butcher. Not knowing the cause of her not conceiving, I cannot give you a more satisfactory answer.

Lice on Horses.—H. K. S. You may use Persian insect powder, if you can obtain the genuine article, and dust it in between the hair. But at the same time you must thoroughly clean the stable, and feed the animal with a sufficient quantity of nutritious food—good oats, for instance.

Abortion.—J. R., Perin's Mills, Ohio, writes: "Lately, two or three of my cows have dropped calves a month or two before time."

ANSWER:—Remove your cows in calf temporarily to other premises, then thoroughly clean and disinfect your cow-stable and your barn-yard, and the abortion, very likely, will stop. If you do not, there is a probability that most of your cows, if not all of them, will abort. It is infectious.

Cough.—C. S., Carmel, N. Y. Coughing is observed in nearly every respiratory disorder, hence no diagnosis can be based upon that one symptom, unless, perhaps, the cough presents peculiar characteristics, and is correctly described. I therefore cannot tell you what ails your horse. There are many possibilities. It may be a chronic catarrh, it may be heaves, it may be an affection of the larynx, or may be some other respiratory disorder.

Bunches on the Shoulder.—E. A., Tyrrell Hill, Ohio, writes: "I have a horse that has bunches on his shoulder about the size of hickory nuts, made by the collar. What will remove them?"

ANSWER:—You fail to give any description of what you mean by "bunches," so I cannot answer your question. If they are fibroid tumors, it will require a surgical operation to remove them. Call on a veterinarian.

Indigestion and Grubs.—P. L., Forest City, Ark., writes: "My cow doesn't chew her cud like other cattle. She also has grubs in her back. What will remove them?"

ANSWER:—Your cow suffers from indigestion. A mild physic, twelve to sixteen ounces of sulphate of soda, combined with a tonic, such as a little ginger or a little mustard, and good, wholesome food, easy of digestion, will probably cure her. In regard to grubs, I refer you to the last issue of this paper.

Distortion of the Pastern Joint—Bone Spavin.—C. H., Beloit, Wis. The weakness (distortion) of the pastern joint, if not yet of too long standing, may be removed; that is, the tendons and ligaments may be strengthened by judicious bandaging, moderate, voluntary exercise, and a sufficiency of good, nutritious food. Your spavined horse, if the same, as you say, has been repeatedly blistered without effect, is probably incurable. In regard to treatment of spavin, see answer in issue of January 15th.

A Cribber.—J. R., Redburn, Ill. Cribbing, slumpsucking and windsucking are only different names for the same bad, and if confirmed, incurable habit. Since your animal is yet a colt, you may put the same in a "loose box" that has smooth walls, and contains nothing on which the animal can take a hold with its teeth. The manger either must be removable, and be taken away after each meal, or its border must be lined with sheepskin with the wool on. If the animal is broken, abundant exercise may also cause the same to forget the bad habit.

Wants to Wean a Mule Colt.—J. B., Altus, Arkansas, asks: "How can I prevent a mule colt from suckling the mare without separating the same from her? I used the muzzle with nalls for a long time, but I never could keep the colt entirely off, and I don't like to use this means any longer. Could I apply pine tar or the like to the mare's teats without injury?"

ANSWER:—You will have a difficult task, unless you prefer to keep the colt away from the mare until the latter is dry. To put tar on the mare's bag will be injurious; it will be less so if you apply a solution composed of aloes, soft soap and water, 2:1:2. This mixture will easily dissolve if heated. A coat of lard applied to the teats will also be objectionable to the colt, and at any rate be far less injurious to the mare than tar.

Books Wanted.—E. T. M., Jerrytown, Cal. Apply to a bookseller, ask him for a catalogue, and choose for yourself. I must decline, once for all, to recommend books on diseases of animals, because the books known to me are of a scientific character, and not understood by persons not familiar with the auxiliary branches of veterinary science, and the books written and published for the use of farmers I am not acquainted with, because I have no time to read them, and no money to buy them. Besides that, veterinary science cannot be studied from books alone, and, in my opinion, in recommending such a book, I would confer a very doubtful benefit.

Sheds Coat of Hair in August.—J. D. P., Chatsworth, Ill., writes: "I have a gray mare nine years old. Every summer at the first of July her hair gets long, and she pants hard and suffers from the heat. After August she sheds her hair, and her wind is as good as that of any horse."

ANSWER:—If your mare is otherwise a healthy animal, and not much older than you say she is (you know some horses never get older than nine or ten years), I would advise you to feed her plenty of good oats and keep her in a good, warm stable; and if she then don't shed her coat of hair at the proper time, to have her clipped in the latter part of May or the fore part of June.

Abortion.—J. G. R., writes: "I have a very good brood mare. Two years ago I bred her in the spring, and abortion occurred in the fall; then I bred her in the fall, and it came on again in the spring, but at that time I worked her hard in new ground where it is very rough with roots and stumps. Can you tell me whether it is worth while to breed her again?"

ANSWER:—I cannot, because I don't know the mare, have never seen her, and don't know what caused the abortion. If you want to breed her again, wait until she has been in pasture about ten days or two weeks, and then treat her as a brood mare, and not like an old working horse. If the latter is not or cannot be compelled with, better not breed her.

Vertigo.—J. E. A., Canton, Kan., writes: "I have a young horse that seemed to be in perfect health and in fine condition. A few days ago I was riding him, and all at once he seemed frightened at something and would rear back till his hind parts would strike the ground; then he would gather to his feet, and would reel around several times, and then would seem to be all right again, and would turn his head and look around as if wondering what had happened. He had four such spells in one day."

ANSWER:—Your description points toward attacks of vertigo. There is no cure, and the horse that has frequent attacks is worthless, and on the road, dangerous. Still, if you work the animal and an attack comes on, it may pass off lightly if you immediately blindfold the horse, either with a handkerchief or something similar that may be handy.

Colic in Horses.—G. G. B., Salem, Ohio. Your horse, undoubtedly, had colic, a disease which frequently requires no treatment whatever, and which, on the other hand, very often requires the closest attention. In all cases, however, the treatment will depend upon the condition of the animal; and as the latter can be ascertained only by an actual examination, it is impossible to prescribe from a distance, especially for cases that have not yet occurred. Bulletin 2 of Series II, of the Ohio Agricultural Experiment Station, is a treatise on colic and its causes, etc. If you write to the director, Chas. E. Thorne, Columbus, Ohio, and copies are yet available, you may get one. My space in these columns is too limited for a complete treatise on any disease, but especially on such an one as you inquire about. As to croton oil, it is no medicine for horses, and much too dangerous to be given by any one except a competent veterinarian.

Discharges from the Nose.—W. J. W., Homestead, Kansas, writes: "I have a twelve-year-old mare that eats and drinks but little. She is thin in flesh, and seems to get thinner. She had a running at the nose. When she held her head down it would run almost in a stream for a short spell."

ANSWER:—There are many possibilities. Such a discharge, and the debility you complain of, may have several causes, which, to describe, would require to write an almost complete treatise on respiratory disorders. At any rate, ascertain first whether the source of the discharge is in the nasal cavities, in the frontal or maxillary sinuses, in other parts of the respiratory passages, or in the lungs. The best, therefore, you can do, is to have the animal examined by a veterinarian. If the mare is improving, it may be that a run at pasture in March and April, especially if you should have an early spring, will do her much good, and restore her to health.

Head Swelled.—S. C. D., Langley, Kan., writes: "I have a three-year-old mare that has what is supposed to be big head. I have noticed her pulling back in the stable, and I thought she had strained her nose. I was told she had wolf teeth, and examined the mouth and found only one wolf tooth, and the side that had no tooth was swelled the most. The swelling is just above where the halter fits on the nose."

ANSWER:—Such a swelling is frequent in young horses, especially when they are shedding their molars. See to it that the sides of the manger are slanting enough, and not too high, so that the animal cannot bruise its jaw bones, and don't monkey with the wolf teeth, but leave them alone. If the nose-band of the halter is too hard, too stiff or too tight, tie the animal with a neck-strap. If you are bound to use medicines, get an ointment composed of biniodide of mercury, one scruple to one ounce of lard, and rub it in on the swelling once every five or six days.

False Quarters.—F. F. B., Strathclair Station, Manitoba, Canada, writes: "I have a valuable mare nine years old, with left front foot cracked or split from the top to bottom of same, about where the hind nail of inside of shoe should be. I keep the animal shod, and she is not as yet lame from said ailment, and is in perfect health."

ANSWER:—First, by careful paring and cutting, separate the hoof from the coronet just above the split for the length of about two thirds of an inch, so that the separation and the split present the shape of the letter T; then pare away enough from the lower border of the wall of the hoof on both sides of the split, so that the latter does not quite touch the shoe. The hoof thus prepared should be shod with a bar-shoe, which, of course, needs resetting once every four weeks. If there is any loose horn in the split it must be carefully cut away, and if there is any raw surface, it must be properly dressed; but in that case it will be best to entrust the treatment to a veterinarian.

\$2.50 FOR \$1. A great opportunity. See page 215.

Our Fireside.

BURIED, NOT DEAD.

We said good-by to our buried past,
And wept and mourned by the lonely grave
For the beautiful life that could not last.
The treasure no tenderest prayer could save;
Then into the world we turned away,
And sorrow walked with us day by day.

A faded flower and a torn, white glove,
Letters, a lock of hair half curled,
Poor, sad bequests of our dear, dead love,
Yet worth the wealth of the whole wide world;
A shell, a pebble may tell aright
Of the ocean's depth and the ocean's might

We made a grave and we said good-by;
Ah, foolish dreamers! We moved apart,
And thought, in our folly, love could die,
While life throbbled on in the brain and heart,
"Now all is over," we sighing said,
"Since love, the cherished, lies cold and dead."

Not so, beloved! Ah, never so!
Whenever your dear face comes in sight,
Heart springs to heart with the old, warm glow,
And silence speaks with the old delight;
An empty grave in the sunshine lies,
But love still lives in our meeting eyes.

—Travelers Record.

A Bartered Birthright.

BY JAMES FRANKLIN FITTS

CHAPTER XII.

BETWEEN LOVE AND DUTY.



UPON the morning of the previous day, a young man had come down to Lewiston in the train from Buffalo, and putting up at the hotel looking out upon the river, freed himself from the dust of travel. He glanced down upon the busy scene below, where the steamboat was getting ready to leave for Toronto with a load of happy excursionists and tourists, and then watched her as she trailed a black ribbon of smoke far down the river till she was lost around the point. Presently dinner was announced, and the young man discovered to his surprise, that, notwithstanding the perturbed state of his mind, his body did not participate in the sentiment. In fact, he was very hungry; he did not remember to have eaten anything since leaving Scioga, and he now liberally made amends for the neglect.

He had plenty of leisure on his hands; he had come to this most quiet and picturesque corner of creation that he might think, and determine on his future course undisturbed. He knew the situation well, and had thought that here, some hundreds of miles from Scioga, he might settle the questions that had perplexed him there, and arrive at some conclusion as to his duty. The problem was a hard one for him. He was of a reflective nature, serious and conscientious; and though he had taken his hurried departure from an occupation he liked and the girl whom he dearly loved, in the full expectation that calamity was about to overtake the Security Bank by the villainy of Mr. Newbold, he now looked back upon his action with hesitation and distrust. Upon one hand was his love for Vi, and, notwithstanding his detestation of her father, his aversions to exposing him, on the other, was his duty to the bank, to save it from the peculations of a scoundrel. Can the reader put himself in George Barnard's place, and say without hesitation what he would have done? Certainly, he, having done the thing to which he was most strongly moved, was more tormented than ever. He lay sleepless the first half of the night, thinking how happy he might be with Vi, if it were not for her father; when he fell asleep, the stern monitor, Duty, stalked with uplifted finger through his dreams, and he woke at daylight, half resolved to return at once to Scioga and accuse Mr. Newbold to the directors.

But he delayed; he put it off till the morrow, resolved to pass at least another day here. Not hoping to release his mind even briefly from the conflict that disturbed it, he thought that he might divert it by a row on the river. He went down to the wharf and hired a row-boat, in which he pushed out upon the broad bosom of the Niagara near eleven o'clock of that next morning.

He floated down with idle oar for a time on the smooth, slow current, rolling along an hundred feet in depth, and looked at the grand range of heights above, with the jagged, precipitous cliffs on either side, where the river bursts through with Titan fury. Bending to his oars, he put the bow upstream, intending to row up high enough to get a sight of the dashing, turbulent flood in the gorge.

The usual crowd from the train had gone aboard the steamboat, and his little craft rocked buoyantly on her swells as she went down the river with a long, foamy wake. He rowed up to the end of the wharf and far above it, till he had reached the curious little whirlpools that agitate the quieting flood, and

he could see the long, wire cables of the old bridge, with fragments of its shattered roadway dangling beneath.

He was fifty yards from the shore, and his eyes happened at the moment to be fixed upon it. Down the steep, red-clay bank he saw an uncouth figure scramble, never stopping till his feet were wet at the water's edge. It was a man, hatless, his long duster torn to ribbons, his clothes covered with dirt, his face and hands bleeding from sharp visitations of briars and thorns. A satchel was closely hugged under his arm.

His wild eyes swept the river, up and down. He saw the boat; he stretched out his hands.

"For God's sake, come and take me in!" he shouted. "I'm in distress; I must get across right off. Take me over, and I'll give you an hundred dollars."

The voice had a familiar sound to Barnard—albeit he had never heard it pitched in that key before. Yet he could not associate any remembered voice with this scarecrow. The offer of reward did not stimulate him; here was a human being in need of assistance, in some severe extremity, as Barnard could see, though he did not understand its course. No matter; he was one who responded quickly to an appeal to his sympathies. A few vigorous strokes brought the boat inshore; the man hurried aboard, and with a weak, "Row out—quick!" he sank down exhausted in the stern.

The oarsman pulled with a long stroke out into the stream, turning down for a smoother crossing. The stranger saw his full face, started, and averted his own.

A loud hail came from the shore.

"Hilloa there, with the boat!"

Barnard lay on his oars.

"Don't stop!" cried his passenger, almost frantic with fear. "Push across quick, and you shall have one hundred—five hundred dollars."

Two men were at the top of the high bank, gesticulating and lifting up their voices in hoarse shouts.

"I say—hulloa! The man you've got in the boat with you is a runaway—a bank-thief! That bag is full of stolen money and bonds! There's a reward of ten thousand dollars for him! Bring him back, and you'll get part of it! We are officers; we order you to surrender him."

With renewed shoutings and outcries, the

between you two. And just think what I can do in Canada! You can bring Vi over there; you can be married as soon as you please; we can all live together, or—"

"Silence—you wretch!" Barnard took the oars, and expended his fury in driving the boat through the water. "You almost make me take you back, in spite of myself. Stop your rascally noise, or I shall do it, yet."

Mr. Newbold cowered down and held his peace. The boat steadily approached the Canadian shore. Within a few rods of it the oars stopped again. Barnard glared at him.

"Give me that satchel!" was the stern command.

A cry like the screech of a wild-beast answered. The man who had bartered everything for the contents of that bag now hugged it to his breast in his fright and misery.

"You can't take it back; you don't dare to go back yourself!" he cried. "I laid it all on you, to make time for myself; they think now you're as guilty as I am. No, no; stick to me, George; we'll send for Vi."

"You infamous scoundrel!" Barnard burst forth, losing all control of himself. "Vile as I knew you to be, I couldn't have believed this of you. Now, in one quarter of a minute, hand me that bag—or back you go to those officers, as straight as I can carry you."

A despairing groan rose from the miserable man's breast. The satchel was flung over to the rower.

A few more strokes drove the boat upon the narrow beach. Newbold got up and dragged himself to the bow. With one foot on the pebbles, he cast a glance of woful entreaty at Barnard, and seemed about to speak.

"No!" the latter sternly interrupted. "Get ashore."

Out in the stream again, pulling across, Barnard took his last look at Carson Newbold. He was sitting by the water, his head bowed on his arms, beaten, shorn of the fruits of his crimes, outcast and alone. The young man shuddered at the picture. "It is the way of the transgressor," he thought.

The officers had come down to the wharf; and though hopeless now of capturing the absconding thief, they lingered about, waiting to learn something of the man who had enabled him to escape. They presently found at the boat-house that this man had come to the hotel the day before on the Buffalo train.



GEORGE'S VINDICATION IN HIS CELL.

men on the bank repeated this information and command to him at the oars. The latter looked closely at the fugitive; his face was hidden, so that Barnard could not recognize him; but he could suspect the truth.

"Is it you, Mr. Newbold?"

"Yes!" came in a smothered groan from the stern. "Take me across—row—row!"

The boat drifted down; the voices of the men shouting on the bank grew faint. Poor Barnard! He had fled almost a thousand miles to escape the conflict between love and duty; he had lately put it off for twenty-four hours; he had secluded himself in the middle of the Niagara to get away from it; and here it was, thrust right upon him as sharply as it had never been before.

The struggle was brief—but fierce while it lasted. He heard the voice of the fleeing thief in tones of abject terror and entreaty; but what he said did not affect Barnard at all. He was fighting with himself, trying to reach a stern resolve.

"George—Mr. Barnard—I beseech you, don't take me back! I've suffered everything to get away, and now I'm safe, if you'll only take me across! If you've got any hard feelings on account of my shabby treatment of you, pray forget them. Remember Vi, my boy; you know she loves you dearly; you know—"

"Stop!" thundered Barnard. "I ought to take you back; I believe I will."

"No, no!" screamed the wretched man. "You don't, you can't mean it! Vi would never forgive you; it would end everything

"A neatly put-up job," was the shrewd comment. "It's the young fellow that the telegrams speak of. He's the other one's pal, and came here ahead to help. 'Twas a cute scheme, and it has succeeded."

"Well, do you see what's coming?" the other asked. "There's that very boat coming back, with the young fellow in it."

"So it is! Here's cheek for you! What does it mean?"

The boat came straight to the wharf. Barnard rose up to tie the rope to a ring. One of the officers seized it.

"You are our prisoner," he said.

"Of course I am. You needn't get out any irons; I'll go along with you. Here's the stolen bonds and money."

He handed up the bag, and climbed out himself. The officers looked at him with silent amazement.

"Why didn't you bring the other man back, along with the plunder?" one of them asked, as soon as he could get his breath.

"I had my reasons. They'll come out in good time. Just wait with me till I settle for the boat, and at the hotel, and then I'll go with you."

"Well, you are a cool one! Come along. We'll have to walk up to the top of the mountain to where we left our horses when we chased your pal down to the water; we'll take you to La Salle, and then to Buffalo. You'd be entitled to wait there in jail for a requisition on the governor of this state, if you choose to demand it."

"Not an hour! I want to get to Scioga as fast as steam can carry me."

He mounted the long steps with them.

CHAPTER XIII.

VINDICATED.



THE city of Scioga was one day electrified by the published intelligence that all of the bonds and a large share of the money abstracted from the Security Bank had been recovered; and that, though the chief criminal, Carson

Newbold, had succeeded in escaping to Canada, his confederate, young George Barnard, the late assistant book-keeper, had been captured, and was in the city jail.

The bank had opened its doors again for business on the third day, when the whole extent of the embezzlement was discovered, Mr. Barkley promptly assuming the loss, in advance of any action of the directors. With confidence fully restored, the panic stopped, and the institution went on its prosperous way again.

The bulk of the pilfered treasure being returned, public curiosity was excited by the report of some extraordinary circumstances attending its capture. The reports were very conflicting; and even after the directors had apportioned the reward among those entitled to it, much uncertainty attended them. The examination of Barnard was continued from time to time until he had been in confinement a month. The prison officials said that he bore himself cheerfully, but with reserve; two or three of his friends visited him, and urged him to employ counsel, and have an immediate hearing insisted on. He greeted them pleasantly but gravely, telling them that when the whole truth came out, as it soon would, he thought they would be pretty well satisfied with him. But he refused to take any step for himself.

It must be added that Violetta was not left in ignorance of his position. As soon as he was permitted the use of stationery, he wrote her a very long letter, the reading of which brought the sunshine back to her face again. She not only replied the same day, but she was alone prevented by her lover's positive command from going to the jail at once to visit him.

The press is a power in Scioga, as elsewhere; and when, about this time, one of the prisoner's friends caused to be inserted in the daily papers an inquiry as to why Mr. Barnard, whose character had always been irreproachable, was kept in jail at the convenience of a powerful corporation, with no proof whatever against him, a decided stir was caused by it. The item was the talk of the town.

"Why, what's this?" Mr. Barkley asked, as he read it. "No proof whatever against him? That can't be so. Still, I used to think he was a fine, young feller; hope he wasn't so badly mixed up with that rascally Newbold that they can't be light on him. I must ask about this. Mr. Hill—I say, do you know anything about how this prosecution of young Barnard is coming on?"

"Not much, sir. I heard the prosecuting attorney say here one day that there was little proof against him."

"Well, that's queer. This part of the business hasn't been talked of as much as it ought, since we got most of the plunder back. I guess I'll look after it a little. These newspapers make talk."

When Norman Barkley became interested in anything, it was his energetic way to exhaust the subject at once. Within ten minutes he walked into the public prosecutor's office and propounded the same question that he had asked at the bank. The lawyer was quite ready to answer.

"It gets along very slowly, sir," was the reply. "In fact, it doesn't move at all. I have been intending to come and see you people about it. That piece in the paper to-day has got some truth in it, and may compel us to do something—or quit."

"Do you mean to say that we've been keeping that chap in jail all this time without any case against him?"

"No—not as bad as that. But we haven't got enough to convict him; hardly enough to hold him for the grand jury."

"How is it?"

The lawyer put on a deep, professional look, and began to count off propositions on his extended fingers.

"I've investigated the case pretty thoroughly, and can tell you what there is of it. First, the young man is in your bank for months, with an excellent character. That is good. Then the cashier gets him discharged. Not so good. Then he compels the cashier to have him restored. That would be unaccountable, except that by putting this and that together, I have worked this out—that Barnard had discovered that the cashier was gambling, and he held the fear of exposure over him. Most of this comes from that scamp, Saul Budd, who will certainly get to state's prison himself, if he lives long enough."

"That's so. Well?"

"Bear in mind here, that all those false entries and alterations are in Newbold's writing. Barnard didn't make one of them."

"Just so."

"Where did the first suspicion against the book-keeper come from?"

"From Newbold. He hinted it to me."

"Was that a likely thing for him to do, if they were confederates?"

"Not at all. But what made the boy run away?"

"Ah!—there's a mystery right there that I haven't got to the bottom of. Well, he helps Newbold across to Canada when the officers were at his heels. That looks bad."

"Yes; I should say so."

"But instead of staying there, he not only comes straight back and gives himself up, but he brings the plunder, as you call it, along with him, and gives that up, too. Now, what can you make out of that?"

"Did he really do that?" Mr. Barkley asked.

"It didn't get to me in that shape."

"That was just the way it happened. I was out there last week, and had the whole story from the officers who took him. They can't explain it, either."

"Why, it beats the Jews!" exclaimed the president, getting excited. "What do you think of it?"

"Simply, that there's something behind all this that hasn't come out. Without it, we are all at sea as to this young man's motives, and with little show against him. If he's to be prosecuted for aiding Newbold to escape, we'll have to send him to New York, where it was done. We've no case here."

"Will you go with me and see him?"

"Yes. He can let in the light, if he will."

They went to the jail. A long interview with the prisoner followed. He declined to send for counsel, saying that he had nothing to conceal. He told his story, fully and unre-



GEORGE'S REPROACH TO THE BANK CASHIER.

servedly. The prosecutor was enlightened and looked quite gratified, while Mr. Barkley appeared highly interested.

"You've supplied the missing link, Mr. Barnard," the lawyer said. "We can now perfectly understand the whole affair. Mr. Barkley, I think the bottom has dropped out of our case."

"Yes, I ain't sorry, neither."

"And I think I might as well have this young gentleman before the magistrate immediately, and consent to his discharge."

"By all means. But I'd like to know of you, young feller, what made you stay in here a whole month, waiting for us to find out about this? Why didn't you let me know?"

"Mr. Barkley," said Barnard, with emotion, "I came here unknown and friendless. After getting a good start, I was cruelly wronged by that villain—I have told you why. I have also told you the means I took to right myself. When I had discovered the full measure of his guilt, my duty required me to disclose it to you. I hesitated; I was weak when I ought to have been strong; finally, I abandoned my post and ran away. You know why I did so; perhaps either of you would have done the same in my place; I say again that I was not strong enough to break her heart by sending her father to the penitentiary. I am glad that I was able to be of such great service to you; and still—still, I have felt as though I deserved some punishment. I do want to see Vi dreadfully; but if you think I haven't suffered enough in mind and body already for her father—"

There was a trifle of huskiness in the kind, old man's voice as he grasped George's hand.

"By thunder, sir, you shan't stay here thirty minutes more! If that young woman understands what a man's devotion is, she knows she's got the real thing this time. You're a good chap, Mr. Barnard; I'll have more to say to you to-morrow."

CHAPTER XIV.
BETTER THINGS.

Of course, public interest in the Security Bank affair was revived upon George Barnard's discharge. The undeveloped facts became quickly known. There was such a romantic flavor in the whole episode that the press had it written up by the column, and George might have been, had he desired it, the lion of Seioja for the balance of that month. What pleased him best was the published certificate of the president and directors of the

bank, that Mr. Barnard's conduct was quite satisfactory to them, and that they cheerfully united in thanking him, and recommending him to public confidence.

He spent the first day of his freedom with Vi, of course. The next, he called on Mr. Barkley, and was warmly received in the president's private office.

"We were rather hasty in dividing that reward money," said the president. "But the thing was badly mixed. The reward was offered for the capture of Newbold, yourself, and the plunder. Now see! Newbold wasn't taken at all; you were; but you brought in the whole prize, and should have shared in the reward. Then again, you were an accused party yourself—"

"It is just as well that the reward is disposed of, sir. I never should touch a penny of it."

"But I want to do something for you. As to going into the bank again—"

"That's impossible, after what has happened. It is the last thing I should wish."

"You understand, I see. No reproach, no suspicion, nothing to be sorry for—but the story continually coming up, and explanations always to be made to strangers who happen to hear of it, of just how it was. Besides, you can do better elsewhere. I've got important interests in Kansas City that sadly need energetic looking after. You are smart and capable; two thousand a year to you to take hold there for me, with your chance of growing up with the town. What d'ye say?"

They agreed upon the spot. The following week Mr. Barnard and his bride started for their new home.

Violetta wrote to her mother on the occasion. She received a polite but distant reply, expressive of the latter's satisfaction that Vi was married and settled. A present of a card-case, which never cost less than a dollar and a half, came by mail, with some unpaid postage.

We have been taught that there is nothing on earth higher than the name of woman, nothing holier than that of mother. Yet there are such women and mothers as Mrs. Frances Newbold (she has now adopted her maiden name), but we rejoice that they are few. She appeared last season at several eastern watering places as a fascinating and dashing widow, and is said to have turned the heads of several elderly millionaires who had supposed themselves beyond the reach of such influences. We are likely to hear more of her in this role, so well suited to her abilities.

And the Canadian exile?

Unlike the Montreal colony of American refugees, fattening in dull and disreputable idleness on ill-gotten spoil, Carson Newbold roams in restless poverty on the border, sighing in vain for squandered honor, for his forfeited birthright. His career is finished; he is dead in everything but body, and death will be merciful when it claims that. Still, even such an existence may be capable of further suffering. I have heard that in one of his darkest fits of despair he wrote a pathetic letter to his wife, begging her to join him and comfort him, since he could not come to her. She replied only with a marked copy of the Indianapolis paper containing the notice of the granting of her decree of divorce.

George Barnard, living very happily with his wife at Kansas City, knows of her frequently receiving letters with Canadian postmarks; he supposes that she answers them; he would not be surprised to learn that Violetta sometimes sends money to her father. But he never mentions the subject; she, after learning all that the released prisoner at Seioja had to tell her, consents that the name of Carson Newbold shall be as a sealed book between them. There is a gulf between them and him.

We may predict their continued happiness, notwithstanding the shadows of both past and present. So may it be!

[THE END.]



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Our Household.

THE LITTLE WHITE HEARSE.

SOMEbody's baby was buried to-day;
The empty, white hearse from the
grave rumbled back,
And the morning, somehow, seemed less
smiling and gay,
As I paused on the walk while it crossed on
its way,
And a shadow seemed drawn o'er the sun's
golden track.

Somebody's baby was laid out to rest,
White as a snowdrop and fair to behold,
And the soft little bands were crossed over the
breast,
And the hands and the lips and the eyelids
were pressed
With kisses as hot as the eyelids were cold.

Somebody saw it go out of her sight
Under the coffin-lid, out of the door,
Somebody finds only darkness and blight
All thro' the glory of summer sunlight—
Some one whose baby will waken no more.

Somebody's sorrow is making me weep.
I know not her name, but I echo her cry
For the dearly-bought baby she longed so to
keep,
The baby that rode to its long, lasting sleep
In the little white hearse that went rumbling
by.

I know not her name, but her sorrow I know—
While I paused on that crossing I lived it
once more—
And back to heart surged that river of woe
That but in the breast of a mother can flow—
For the little white hearse has been, too, at
my door.

—Ella Wheeler Wilcox, in Demorest's Magazine.

CROCHETED EDGINGS.

No. 1.

Make a ch of 10, fasten, turn and c 12 d c into the loop. Turn again and put a st between each of the above st with a ch of 1 between each st, turn again and finish with an edge made 3 loops, fasten, until there are 5 loops; into the last loop make a sh just like the first one.

No. 2.

This is worked from the middle. Make a ch of 10, into which c 20 s c, fasten.

Second row—Ch 4 to bring up a long st, put 3 d c into each of the former row, ch 3, put 3 d c into the next 3 of the former row until you have 6 of these groups, then make 9 d c without the ch.

Third row—Into the ch between the st put a d sh, 3 st, ch 2, 3 more into the same place, make 7 of these, then 12 d c into the 9 former ones.

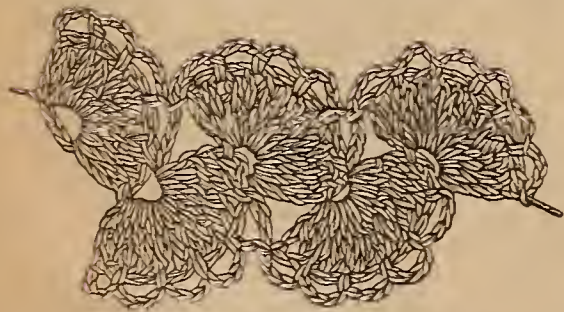
Fourth row—7 d sh into the middles of the former sh, and 14 d c on the 12.

Fifth row—Sh of 12 st into the middles of the former ones, and fasten between with a s c st; 7 of these, then 16 d c.

Sixth row—Ch 6 and fasten to the middle of the sh, ch 10 or 12 and fasten in the next sh until you come around to the plain part, then 18 d c st.

Seventh row—Fill all the ch with a s c st, then 20 d c.

Eighth row—Ch 4, make 3 d c into the sixth, seventh and eighth st below, right at the middle of the sh in the former row,



CROCHETED EDGING.—No. 1.

ch 7, 3 more st in between the sh, make 13 of these, then 22 d c.

Finish as in cut, as it is very plain to all who use the crochet-needle.

Abbreviations—c, crochet; s c, single crochet; d c, double crochet; sh, shell; d sh, double shell; st, stitch; ch, chain.

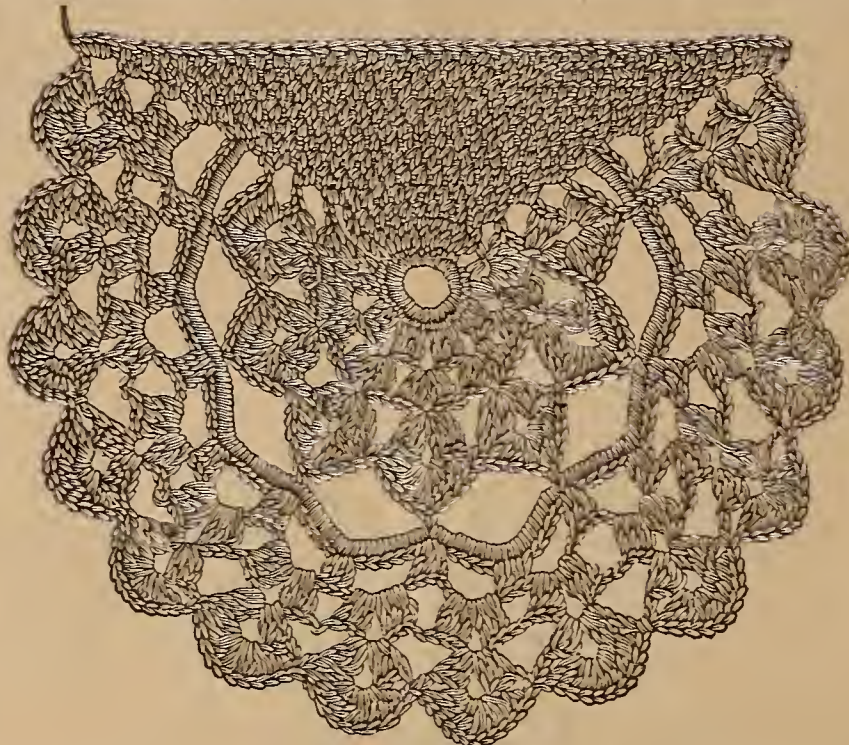
HOME TOPICS.

BREAKFAST ROLLS.—Alice makes such delicious rolls for breakfast that I must tell you how she does it. Add an even teaspoonful of salt to a quart of flour and sift it. Rub half a cup of butter into the flour. Dissolve one half of a cake of compressed yeast in a little warm water and stir it into the flour, then add enough warm milk to make a dough just stiff enough to handle, take it on the board and knead it well, then put it back into

the pan, cover it lightly and leave to rise over night. In the morning, as soon as the fire is started, flour the board and rolling-pin, take the dough on the board, roll it about an inch thick, and cut with a small biscuit-cutter (a quarter-pound baking-powder can is just the right size), put them on a large pan, not touching each other, and put a tiny bit of butter on the top of each. Let them rise until very light and bake quickly in a hot oven.

"Beacon biscuits," which are so popular now, are made in the same way, except a small piece of the dough is taken on the floured board at a time, and rolled very thin, like wafers; then they are cut with a biscuit-cutter or in squares and two of them laid together with tiny pieces of butter between. Bake these in a brisk oven until a nice brown. They will be crisp and tender, and the only fault that I have heard found is that there is not enough of them.

RICE CROQUETTES.—One quart of boiled



CROCHETED EDGING.—No. 2.

rice, a teaspoonful of sugar and three eggs. Put some fine cracker or bread crumbs on the kneading-board, then put a spoonful of the rice on the board and make it into a roll. When all are made, fry them a delicate brown and serve hot for breakfast.

TABLE-LINEN.—No one thing adds more to the appetizing appearance of the table than clean, white table-linen. I know some advocate the use of red table-cloths on the score of saving washing; in fact, I have seen one red table-cloth used, in a family of six people, for two weeks without washing. I think it was turned over at the end of the first week, and the table was only cleared off when the cloth was changed. One can imagine how clean the cloth was at the end of two weeks. Of course, it did not look as soiled as a white one would, but it was just as soiled.

One white cloth may be used a week if carving-cloths are used and a napkin under the plates of little children. A piece of white oilcloth, pinked around the edge, does not look badly under a child's plate, or even under the meat-platter, and will save many spots from the table-cloth.

I am old-fashioned enough to prefer my table-linen hemmed by hand. Of course, for every-day use, machine hemming is excusable, if it is necessary to save time, but let the fine linen for feast days be all hand made. Napkins are convenient for little girls to practice hemming on. Let them make the common ones for every-day use first, and afterwards they will take pride in setting even stitches in mamma's finest table-linen.

I remember well when I first learned to sew. A dear, patient, maiden aunt basted all the seams and taught me to sew "over and over." When I could do that nicely, then I was taught to hem in the usual way, and later, to make a hem by turning the folded hem backward so that the folded edge and the part of the cloth the hem just meets are like the two edges of an "over and over" seam, and then sewing over and over, taking care not to take up

enough of the cloth to allow the stitches to show on the right side. I always hem my table-cloths and napkins in this way now. It is an easy way of making a very neat hem.

It really seems, sometimes, as if neat hand sewing would soon become a lost art. In some cities a step has been taken in the right direction by making sewing one of the branches of instruction in the grades of the public school from the third to the sixth inclusive. Although only one hour of each week is given to this work, yet the pupils are required to do some pieces of work at home, and in the four years they become quite proficient sewers and learn to mend and darn neatly.

Although our country schools are already crowded with a multiplicity of studies, yet one hour a week could be well spent in learning to sew. As a rule, mothers in the country have little time to teach the little girls to handle the

than pancake batter. Set this bowl into a two-quart basin and filled up around it nearly to the top of the bowl with water as most as warm as I could hold my hand in, being careful not to make it of a scalding heat, and set on the table near the kitchen stove. At ten o'clock this yeast was quite light and nearly filled the bowl; I then scalded about three pints of flour, in which I had put, perhaps, two teaspoons of salt, or salt according to taste, with boiling water from the tea-kettle, enough to moisten the flour. Added to this a pint and a half of cold water, stirred in sufficient flour for sponge, and then it being cooled enough not to scald it, added the yeast already prepared.

Set this sponge on a warm stone near the stove, and at one o'clock it was, as my mother used to say, "light as a cork."

Now, had I wished to hurry the process all I could, and have light, sweet bread, I should have kneaded this sponge out into loaves at once and so gained the time of once rising, but not caring to do so, I stirred down the sponge in the pan, adding a little flour, and set to rise the second time before kneading. By this means we secure bread, when completed, in which the air spaces are more fine and evenly distributed through the loaves, and I think keeps moist somewhat better.

At about three it was again light, not having been made quite as warm as when first set in sponge, and I kneaded it into loaves, of which the above amount made three good-sized loaves, or would make four smaller ones, and at five o'clock it was ready for the oven, where I baked it with moderate heat for an hour, though, of course, I am aware that many would bake it in much less time and even, no doubt, scoff at the idea of keeping bread in an oven a whole hour, but as my mother used to say, "I am too slack myself to like slack-baked bread," and I prefer it baked longer with a moderate heat rather than twenty or thirty minutes with the oven hotter.

Of course, however, this is somewhat a matter of taste, and then there is a great difference in length of time required to bake in different ovens; but at any rate, my bread by this method is good enough that I am not ashamed to set it before any of my friends.

AUNT MARY.

THE KITCHEN GARDEN.

In 1852 that renowned statesman, Daniel Webster, wrote: "Cultivate your garden. Be sure that you provide sufficient quantities of useful vegetables. A man may half support his family from a good garden." Webster knew this from personal experience. He had passed his youthful days on a farm. His father was one of the intelligent, thinking farmers of New England.

One would naturally suppose that on the farm, if nowhere else, the garden would be well cultivated, and at least the more common varieties of vegetables would be found in abundance. There is just where one finds himself often mistaken. There are hosts of farmers who cultivate their field crops well—thoroughly, as the world goes—who do not give an hour's work to the garden. They may plant a few potatoes, and possibly set out a few cabbage plants, but that is as far as they go. If the wife can leave her already too numerous cares long enough to "scratch" a plot of ground for the sowing of a few lettuce and radish seeds, very well; but if she can't get out to do it, there will be no seeds sown in that garden. The idea! The shame of it! The garden work depending on the wife's frail arms! (No, this is not fiction. It is clear reality, and can be attested to by many.)

Certainly, any reasonable man understands that vegetables contain material for building up and otherwise benefiting the human system. Many of them possess medicinal qualities of great value. All are calculated to promote good health. Indeed, the free use of fresh vegetables, as well as fruit, cheat the doctors out of many fees. Then, knowing this, why does not every farmer see to it that his farm has a garden that will supply his family with plenty of fresh vegetables? Well, basing my opinion on observation and expressed sentiment, most men "despise to work in the garden;" and then it appears to them that the time spent there is just so much time needed in the field. The field, you know, shows off to better

advantage. It must be that; for there are but few men who do not enjoy vegetables. Then why deprive themselves and families of the pleasure that a day's work will obtain? The garden need not all be made the same day; the work may be carried on at different times, a few hours at a time. After the oats are sown is a good time to see to the garden. But it is not too early to do your planning now. Vegetable seeds are to be had very cheap in collections. The seeds are sent out by reliable firms in quantities sufficient to supply an ordinary family with vegetables all summer and winter.

So many farmers there are who never think of growing celery. They look upon it as one of the luxuries to be obtained only at the market-place. How they err. Celery is as easily grown as potatoes. The work is not nearly so hard in reality as writers on the subject would have us believe. With the abandonment of the old trenching system, the most of the labor attending celery culture has disappeared. One thing should be remembered; that is, never to handle celery plants while they are wet.

Vegetable oysters, too, is so delicious, and of such easy culture that it should be more generally cultivated. If you, reader, are one who thinks his time too precious to be put in on the garden, do, just for once, set aside your ideas, and resolve, for the good of your growing girls and boys, to have a garden this year. You will need but one trial to convince you that a good kitchen garden is one of the best paying investments on the whole farm—and not time lost.

ELZA RENAN.

HARMONY OF FLOWERS.

A floriculturist has said that he knows of very few flowers that make up prettily with sweet peas in a bouquet for bowl or vase. I think I have found one that forms with it a perfect combination of grace and beauty. It is the nasturtium. I can imagine nothing more lovely for a white bouquet than the nasturtium pearl, placed loosely in a bowl or large, mounted vase, every possible chink of space filled in with somewhat longer stems of sweet peas. Eckford's Queen of England is a grand white variety. If one must have a bit of color, I should choose Apple Blossom, also a variety of the Eckford pea; but for me, my table is perfect without this last addition.

I wonder if my friends love the white blossoms as I love them, and study with me the varied changes of tint and shade found among the so-called colorless flowers. It may seem strange, but if you would group together a large bouquet, confining yourself as to selection only among the whites, it will prove a surprise to you what a task you have taken upon your hands. Harmony will not prove an easy thing, and the blossoms will quarrel at the slightest intimation of proximity, and you will lay down stem after stem to lighten the crimson that are more kindly affectioned one toward another.

At my time of writing I have placed in my warmest window a pot of earth containing five seeds. In the center is a lemon balsam, at one side a dwarf nasturtium pearl, on the other side two seeds of mignonette machet—two, because they are so small sometimes they perish under atmospheric changes. Will they grow? I have faith to believe they will, because they have done so and been beautiful to look upon. If they crowd, I carefully lift the unruly member and place it by itself. Generally, it is machet that disturbs by thrusting out her branches in such a dense and bush-like manner as to encroach upon the rights of the rest of the family, and this is wrong. If no remedy be applied, each plant would suffer.

Do you desire to cheer a sick or invalid friend with a floral cross? I will tell you how I fashioned one, not long ago, to lay upon the casket that contained the earthly remains of a dear friend and neighbor, who all her life had loved and cared for flowers. I laid my paper model of a cross upon heavy pasteboard, and carefully traced the form with a pencil; removing the pattern, I carefully cut the penciled line. As green leaves are not plentiful in winter, I seek reinforcements from a pro-

tected bed of myrtle that is at all times and seasons ready and willing to aid the willing worker. From this bed I cut nice sprays of myrtle and covered the bare cross neatly with them, the underside not so particularly nice as the upper or outer. If this is done as it should be, the decorative part is an easy matter. I took a large, half-opened cluster of the single, white geranium and nestled it amid the leaves of the myrtle where the sections of the cross touch; the unopened buds produced a fine effect, though there should be some blossoms in the cluster that are fully developed. Nicotiana affinis bears large, tubular flowers; these I fastened loosely, and they hung like silver bells and trumpets from the head and arms of the cross.

JOSEPHINE McCARTER.

A CUFF WITHIN A CUFF.

Fashion has ordained that linen cuffs are once more to be worn. At the same time, fortunately, an improvement has been introduced which should effectually dispose of the complaint that cuffs cannot be kept in their proper place. These new cuffs are of the usual appearance externally, but they contain an inner band, which can be buttoned tightly around the wrist, and in this manner all danger of slipping up the arm or over the hand is completely obviated. The idea is simple, neat and sensible.



MABEL'S HOME-COMING.

Mrs. Hosmer and her Aunt Kizzie sat at the breakfast-table talking, as only two women can who haven't seen each other for at least six months, after having lived together for years, and, as Mabel always laughingly declared, would always be her home. But young Doctor Hosmer coming into the neighborhood changed all her plans.

Sweet Mabel Wynn was left an orphan when but a few weeks old, but Aunt Kizzie Wynn took her to her home and motherly heart, and the little babe never missed a mother's care and love.

This was Mabel's first visit home since her marriage and removal to a distant city. After chatting away, telling and hearing news of old and new friends, Mabel said:

"Now, auntie, while I am here I want to be just your own little girl, like I used to. We will divide our work and visit as we go along; now, what will I do first? There are a great many things I want to know by actual practice while I have a chance."

"Well, well, if you want to help, you can put on one of my large, kitchen aprons, and while I wash up these dishes you can clean and fix the chicken ready for stewing."

Mabel sauntered around the dining-room, picking off a dead leaf from the geranium in the window, dusting a stray bit of dust from a chair, and trying to fill in her time waiting to commence her task. Aunt Kizzie looked up from shining a goblet and said:

"What are you waiting for, Mabel?"

"Why, for your dish-pan to cut up the chicken in. I always use that."

"Well, if that is the trouble, you needn't wait. Just go to the drawer in the cupboard and get that piece of brown wrapping paper that came around the last steak I bought. By the way, I save every bit of clean wrapping paper I get around parcels. You can use the corner of the table here to work on. Now lay the paper down with the fowl on it; divide the chicken, and when through, gather up the paper by the four corners and carry it away, and you have all the muss cleaned up, with no mussed, dirty table to wipe off."

"Oh, auntie, how glad I am! How easy that is! I'll profit by it. That is one of the little things I didn't like to do very well."

"Another thing I want to tell you, Mabel, and that is the way to cook sweet corn. Our old way was to put the corn on to cook about ten o'clock, and boil and boil till it was as hard as grapes. Now, I've found out such an easy, quick way. Put the corn to soak in the morning, in

just enough water to cover it nicely; then about fifteen minutes before the dinner is ready, bring it to a boil, and season it with butter, sugar, sweet cream and salt, with a dash of pepper. Dish up and serve, and you have something really palatable. I know your husband will like it."

"Oh, wait, auntie, till I get out my blank book; I want to jot down all those things for future use."

"Dear heart! How glad I'll be if I can help my baby over some of the hard places. While you are with me, ask all the questions you have a mind to, and I will try and answer as far as I can."

When the chicken was stewing Mabel came in, her cheeks all aglow, her apron filled with all kinds of wild flowers. She had been to the wood-lot, a favorite nook in her girlhood days, and came home laden with spring beauties. While arranging them to beautify the table she said:

"Aunt Kizzie, I want one of your very own best pot-pies for dinner."

With a pleased laugh auntie said:

"I knew what my little girl liked, and have one already for the table."

"Now for my blank book again. Tell me the formula and I'll write it down."

"Better wait until you have tasted it. You know 'the proof of the pudding is in the eating,' so bring your chair and the book, and you can eat and write afterward."

After it had been eaten and duly praised auntie said:

"Now for the recipe: I take a shallow pan, fill with flour, make a dint in the center with a spoon or the closed fist; now take a teacup of butter or meat drippings, a teacup of water or sweet milk, a teaspoonful of baking-powder, a little salt; mix, roll thin as pie-crust and bake done. Have it just ready to come out of the oven when you dish up the chicken, which, of course, you have seasoned and made a gravy around, with egg, water and flour. Break up your baked crust, and pour the chicken and gravy over it. Now you have something good, and as Josiah Allen's wife said, 'it wouldn't hurt an infant babe.'"

"Well, now, that is down, and I want to know how you made the comfortable I slept under last night. It seemed so light that when I first jumped into bed I thought I'd have to call for more covering, but in a few minutes I was plenty warm enough, and not burdened with weight, either."

"I'll be glad to tell you, for it is something I learned since you left me. Really, I can't see why I didn't think of it long ago," and auntie drew a long sigh, thinking of the many stitches on crazy patchwork and log cabins for comfortables that had been taken by her busy fingers.

"For a large comfortable, take fourteen yards of cheese-cloth, a few sheets of bright tissue paper, three pounds of wadding or batting, and some yarn of pleasing colors. Now take half the cheese-cloth, lay it on the floor, put a layer of tissue paper, then the batting, then another layer of tissue paper, and last the top layer of cheese-cloth. Now pin the edges all around to keep it straight, and knot it with the bright yarn. Either bind it with bright goods, or simply turn it in around the edge and run it up on the machine. When soiled, it can be taken apart and washed, and will be as good as new again."

The week was taken up in exchanging notes. Mabel had learned some things in her new home that helped Aunt Kizzie, and these busy women worked and visited, and were honestly happy and contented. When the young doctor came for Mabel, she gleefully showed him her blank book well filled, and he laughingly said, as they rode away:

"Auntie, I feel the responsibility of carrying off so much wisdom. I only hope I'll live to enjoy it all."

MATILDA COPP.

COUGH BALSAM.

Put into a pint of whiskey three ounces of white pine tree gum; when it has dissolved, mix it with strained honey, using equal parts of each.

It is one of the best things for a cough, and should always be kept on hand.

BETTINA.

MUTTON.

Mutton is very wholesome and very convenient to the farmer, as a whole one can be consumed in an ordinary-sized family before spoiling, yet many people have a prejudice against it, which is greatly owing to the way it is served. Like all other articles of food, it can be cooked in a variety of ways.

To be good, mutton should be fat, and the fat clear and hard. The lean of the meat should be a dark red. The hind-quarter is best for roasting. The ribs may be used for chops, and are very delicate. The leg should be boiled, and served with sauce. Cutlets may be taken from the neck.

BROILED MUTTON CHOPS.—Cut the steaks, season with pepper and salt. Broil on hot coals, baste with butter and sprinkle with grated bread crumbs. Serve with stewed onions.

MUTTON CHOPS LARDED.—Beat chops flat and lard them with salt pork. Put in a sauce-pan, sprinkle with minced onions, pepper and salt. Cover with soup stock and let simmer one hour; thicken the gravy with browned flour, add the juice of a lemon, one spoonful of mushroom catsup and a wine-glass of currant jelly. Lay the chops in a dish and pour the gravy over.

MUTTON CUTLETS.—Trim and season, dip first in beaten egg and then in cracker dust; put two ounces of butter and a little water with the cutlets in a dripping-pan, set in the oven, baste and bake brown. Serve with walnut catsup.

MUTTON STEW.—Take three pounds of lean mutton, slice and lay in a deep baking-pan, put in one teaspoonful of celery seed, one each of cinnamon, clove, mace and salt, with a pinch of cayenne pepper; mix with a teacup of vinegar, a tablespoonful of French mustard and the juice of a lemon, pour over the meat, sprinkle the top with brown sugar. Set in the oven and bake brown.

TO GRILL A BREAST OF MUTTON.—Score the top, wash over with beaten egg, sprinkle with salt and pepper, cover with grated bread crumbs and set in the stove; baste with butter. Pour caper sauce over, and serve with currant jelly.

BOILED LEG OF MUTTON.—Make a paste of flour and put over the joint, tie up in a well-floured cloth and put in boiling water; allow twenty minutes to the pound. Remove the paste and serve with caper sauce or plain, drawn butter.

LEG OF MUTTON A LA VENISON.—Lay in a deep pan, and rub with the following mixture: One tablespoonful of salt, one each of celery, brown sugar, black pepper, mustard, allspice, cloves, mace, sweet herbs, mixed and pounded; after rubbing in well, pour over the meat a cup of vinegar; cover and sit in a cool place for three days. When ready to cook, pour a quart of boiling water in a deep kettle; in the bottom put an inverted pan, on it lay the leg of mutton, and steam four hours. Add a teacup of boiling water to the pickle and baste the meat with it; thicken the gravy. Serve with currant jelly.

ELIZA R. PARKER.

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The following is a fair sample of many letters received by the publishers of this paper, testifying to the excellency of our Housekeeper's New Cook Book:

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Our Household.

CONTRIBUTED HINTS.

PORK CAKE.—One pound of pork free from rind, chopped fine,
Five cups flour,
Four cups of brown sugar (dark),
Two tablespoons cloves,
Two tablespoons cinnamon,
One tablespoon allspice,
One pint boiling water poured on one tablespoon of soda,
One pound raisins,
One pound currants.

Bake one hour. This cake will keep a year. MRS. NANCY.

LEMON PIE.—Grate one lemon, 3 eggs, 3 cups water, 2 cups sugar, 3 tablespoons corn starch. Bring the water to a boil, stir in the corn starch and the sugar. When cool, add the lemon and the yolks of the eggs. Beat the whites of the eggs stiff, add two tablespoons sugar; spread when baked and return to the oven to brown. This will make three pies.

CREAM CAKE.

2 cups powdered sugar,
¾ cup butter,
½ cup milk,
3 cups flour,
3 teaspoons baking-powder,

Bake in layers.

Filling for above:

½ pint of milk,
2 teaspoons corn starch,
1 egg,
½ cup of sugar.

Heat the milk to boiling, stir in the corn starch with a little cool milk. Then add the egg and sugar when cool and one grated lemon.

Service, Pa.

CHOCOLATE NOUGAT.—Take three pounds granulated sugar, one pound of glucose, one quart of water, place on fire, stir until the sugar is dissolved; boil these to a rather firm ball, take off the fire, let cool fifteen or twenty minutes, then granulate it into a smooth mass by working to and fro with a stout paddle; after which scrape together with the hands. Now add four ounces of grated chocolate, eight ounces of chopped almonds, one tablespoonful of vanilla; knead with hand like dough, make in loaf shape ready for use. J. H. M.

PIN-CUSHION.—A pretty pin-cushion is composed of two tiny square ones tied together with a ribbon at the corners. Small, round cushions not over four inches in diameter are now preferred to the huge old-time cushion which occupied the central place of honor so long on the dressing table. These cushions are made of silk in buttercup yellow, cornflower blue or any dainty, flower-like color, and covered with the finest muslin or silk bolting cloth, embroidered or daintily painted with tiny flowers.

FOR NEURALGIA.—Boil a handful of lobelia in half a pint of water, strain and add a teaspoonful of fine salt. Wring cloths out of the liquid, very hot, and apply till the pain ceases, changing as fast as cold, then cover with dry cloth for awhile, to prevent taking cold. Two large tablespoonfuls of cologne and two teaspoonfuls of fine salt, mixed in a bottle, makes an excellent inhalant for facial neuralgia. Horseradish, prepared the same as for the table, applied to the temple or wrist, is recommended.

CURE FOR A COLD.—I have, two or three times within the last three months, been attacked by a violent cold in the head, the catarrh or discharge from the nose and eyes being most distressing. On each occasion I have speedily cured myself by slicing two or three acid cooking-apples into a small sauce-pan of hot water, which I then boil for half an hour or so, stirring occasionally with a spoon until the apples were quite dissolved into thin, pulpy soup. This, sweetened with sugar, I then drank. In less than an hour afterwards I felt the cold giving way, and in two or three hours more it disappeared entirely. Not happening to have a lemon by me on the first occasion, I tried this remedy as a substitute, and can now confidently recommend it.

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Our Sunday Afternoon.

FINISH THY WORK.

FINISH thy work, the time is short;
The sun is in the west,
The night is coming on; till then,
Think not of rest.
Yes, finish all thy work, then rest;
Till then, rest never;
The rest prepared for thee by God
Is rest forever.

Finish thy work, then wipe thy brow,
Ungird thee from thy toil;
Take breath, and from each weary limb
Shake off the soil.
Finish thy work, then rest in peace,
Life's battle fought and won!
And so to thee thy Master's voice
Shall say, "Well done!"

SAVED BY GRACE.

A POOR, unlettered old woman was once accosted by a skeptic in the following way:
"Well, Betty, so you are one of the saints, are you? Pray, what sort of folks are they, and what do you know about religion, eh?"

"Well, well," replied the favored old creature, "you know, sir, I'm no scholar, so can't say much for the meaning of it; I only know I am 'saved by grace,' and that's enough to make me happy here and I expect to go to heaven by and by."
"Oh, that's all, is it? But surely you can tell us something nearer than that? What does being saved feel like?"
"Why, it feels to me," said the Spirit-taught one, "just as if the Lord stood up in my shoes, and I stood in his'n!"
Happy old woman! Glorious grace!

A WORD TO YOUNG MEN.

Young men make a sad mistake when they think it necessary that they should have a personal acquaintance with the dark and seamy side of life. Many a man who has peered into the abyss "just to see what it was like," has lost his balance and fallen almost hopelessly. A young man was talking to a pilot on one of our big steamers. "How long," he asked, "have you been a pilot on these waters?" The old man replied, "Twenty-five years; and I came up and down many times before I was pilot." "Then," said the young man, "I should think you must know every rock and sand-bank on the river." The old man smiled at the youth's simplicity, and replied, "Oh, no, I don't; but I know where the deep water is." That is what we want—to know the safe path and keep to it.

ENDORISING.

The system of endorsing is all wrong, and should be utterly abolished. It has been the financial ruin of more men than, perhaps, all other causes. Book-keeping, a journal devoted to merchants, clerks and business men, advises our young men especially to study the matter carefully in all its bearings, and adopt some settled policy to govern their conduct, so as to be ready to answer the man who asks them to sign his note. What responsibility does one assume when he endorses a note? Simply this: He is held for the payment of the amount in full, principal and interest, if the maker of the note, through misfortune, mismanagement, or rascality, fails to pay it. Notice, the endorser assumes all this responsibility, with no voice in the management of the business and no share in the profits of the transaction, if it proves profitable; but with a certainty of loss if, for any of the reasons stated, the principal fails to pay the note.

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A REASONABLE TRIBUTE.

The vineyard was His, and he had a right to expect his proportion of the fruit. Now, here was the trouble: Israel was prone to forget that they were only tenants at will, while the Almighty was the absolute owner. And this is the way with the most of men. They come to think that they own what they occupy, and while boasting of their honesty are robbing God of his rightful duties. They may scrupulously render unto Caesar the things that are Caesar's, but are utterly careless about rendering unto God the things that are God's. They are like that ungrateful wretch who, when appealed to for a contribution to the Lord's cause, excused himself upon the ground that he was in debt, and when reminded that he owed the Lord more than all else besides, replied with consummate impudence, "Yes; but he is not pushing me like my other creditors." But let such a man be sure of this, that though the Lord may be slow in pushing his claims, he does not forget them, that they are never outlawed by lapse of time, and the longer the settlement is postponed the more dreadful it will be.—Henson.

EDUCATION FOR ALL.

Do you suppose a man has no right to an education unless he is going to be a doctor, a minister, a lawyer, or some kind of a public man? I affirm the right of every man in the community to an education. A man should educate himself for his own sake, even if his education should benefit no one else in the world. Every man's education does, however, benefit others beside himself. There is no calling, except that of slave-catching, for Christian governments, that is not made better by brains. No matter what a man's work is, he is a better man for having had a thorough mind-drilling. If you are to be a farmer, go to college or to the academy first. If you are to be a mechanic, and you have an opportunity of getting an education, get that first. If you mean to follow the lowest calling—one of those callings termed "menial"—do not be ignorant; have knowledge. A man can do without luxuries and wealth and public honors, but not without knowledge. Poverty is not disreputable, but ignorance is.—Henry Ward Beecher.

NOT A COMPLIMENTARY GOSPEL.

That is what makes some people so mad. It comes to a man of a million dollars and impenitent in his sins, and says, "You're a pauper." It comes to a woman of fairest cheek, who has never repented, and says, "You're a sinner." It comes to a man priding himself on his independence, and says, "You're bound hand and foot by the devil." It comes to our entire race and says, "You're a ruin, a ghastly ruin, an illimitable ruin." Satan sometimes says to me, "Why do you preach that truth? Why don't you preach a gospel with no repentance in it? Why don't you flatter men's hearts so that you make them feel all right? Why don't you preach a humanitarian gospel with no repentance in it, saying nothing about the ruin, talking all the time about redemption?" I say, "Get thee behind me, Satan." I would rather lead five souls the right way than ten thousand the wrong way. The redemption of the gospel is a perfect farce if there is no ruin. "The whole need not a physician, but they that are sick."

THE BEAUTY OF AN EGYPTIAN LANDSCAPE.

I can hardly describe the beauty of an Egyptian landscape. There are no fences, and the farms and fields are separated only by the character of the crops and the canals. There are no barns nor houses in the fields, which are so small and so rich in their crops that they make the whole country look like a vast garden. Everything grows like the famous gourd of Jonah. The patches of clover bend their heads over with the weight of sweetness, the cotton in the next patch bursts forth in its pods of whiteness, and beds of heavy green point out the rich coming harvests of beans. There are few trees to be seen, only here and there a cluster of tall palms marks the site of a mud farming village, and a grove of date trees reminds you that you are in the tropics.—Frank G. Carpenter, in American Agriculturist.



An Unequaled Triumph.
An agency business where talking is unnecessary. Here are portraits of Miss Anna Page of Austin, Texas, and Mr. Joe, both of Toledo, Ohio. The lady writes: "I do business at almost every house I visit. Every one wants your grand photograph album, and were I deaf and dumb I could secure orders rapidly." The man writes: "Your magnificent album is the greatest of all bargains, the people generally are wonderful struck and order at sight. The orders taken last week pay me a profit of over \$4.00." This is the chance you have been looking for. You can make from \$5 to \$25 and upwards every day of your life. Talk not necessary. You can make big money even though you don't say a word. Our new style album is the grandest success ever known, and the greatest bargain in the world. Double size—the largest made. Bound in richest, most elegant and artistic manner, in finest silk velvet plush. Bindings splendidly ornamented. Insides charmingly decorated with most beautiful flowers. It is a regular \$10 album, but it is sold to the people for only \$2. How can we do it? It is the greatest hit of the times; we are manufacturing 500,000, and are satisfied with a profit of a few cents on each. Agents wanted! Any one can become a successful agent. Extra liberal terms to agents. We publish a great variety of Bibles and testaments; also subscription books and periodicals. Agents wanted for all. Our agents are always successful. We do the largest business with agents in America, and can give larger value for the money and better terms than any other firm. Particulars and terms for all of above mailed free. Write at once and see for yourself. Address H. HALLETT & CO., Box 561, PORTLAND, MAINE. Mention this paper.

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I took Sick,
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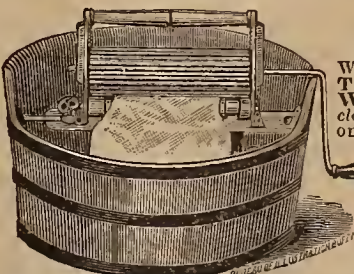
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Best \$15 Watch in the world. Perfect timekeeper. Warranted heavy, solid, and bunting cases. Both ladies' and gent's sizes, with works and cases of equal value. ONE PERSON in each locality can secure one Free. Cut this Out and return to us with TEN CENTS in silver, and you will receive by return mail a GOLDEN BOX OF GOODS that will bring you in more money in one month than anything else in America. Absolute certainty. Either sex. No capital. This is no humbug. Satisfaction guaranteed or money refunded. Just think of it! Show this to friends, as we will send THREE of these Golden Boxes of goods for 25 CENTS. Great Premium! We will send by express absolutely Free one of our Watches as illustrated above to each of the first 100 persons answering this advertisement, also our illustrated catalogue of watches. We propose to give away these watches simply to advertise our business. W. S. SIMPSON, Box 2574, N. Y. Mention Farm and Fireside.

Our Farm.

BEAUTIFUL FLOWERS—EASILY GROWN.

BY JOSEPH.

No. 2.



HALF HARDY ANNUALS.—

In my last article I have named a number of choice annuals that are perfectly hardy, and can be sown in open beds or borders just as early in the spring as the ground is in good working order. When this is done with the same care that vegetable seeds should be sown, there will be no difficulty in getting them to germinate promptly.

The list given will furnish us some very fine flowers; yet we will not be satisfied with them. Among the so-called half hardy annuals and biennials we find flowers of such exquisite beauty, and such ruggedness and thrift, and which, at the same time, are such free bloomers, that we do not feel we could get along without them. All seeds of this list can be sown after danger from late frosts is about past, or at the usual time of planting corn.

The aster, or China aster, is one of the choicest of this list. It is represented in a great number of varieties and in many colors. I can hardly imagine anything more delicate, more charming, more exquisite than the flowers of some of the newer sorts. The bloom is produced in great abundance from August to October; but if wanted earlier, the plants may be started in boxes or pans in the house, or in frames, and transplanted to the open ground at corn planting time, in rich and well prepared soil, giving each plant about one square foot of space. A constant supply of moisture is indispensable for best success. For this reason, frequent hoeing or digging around the plants, careful removal of weeds, which otherwise share food and drink with them, and perhaps a mulch of moss or leaves, etc., with an occasional watering with liquid manure, will be found of great help.

Among the dwarf sorts are some very fine ones, especially Boltze's Dwarf Bouquet, Dwarf Pompon Bouquet, etc. These grow only about eight inches high, and have very delicate, small, but very perfect double flowers in abundance. Among the larger sorts I would select Victoria, peony-flowered Perfection, Comet, etc. Almost all varieties are fine, however, and I would hardly consider a flower garden or border complete without at least some clumps or rows of asters.

Other flowers of the half hardy class, and the very cream among them, are Canterbury Bell, gaillardia, double hollyhock, pansy, hybrid petunia, single dahlia and verberna. Pansy and hollyhock are nearly hardy, and winter well outdoors with very little protection. The hollyhock may be sown in spring or autumn, and planted out to bloom the season following, from August to October. Pansy is one of the earliest to bloom. Flowers are often found fully expanded as soon as the snow thaws off. The gaillardia has pretty, yellow flowers, and also blooms from August to October. The petunia gives bloom from July to October. The single varieties are the ones wanted for open-air culture, the double ones being preferable for the house or greenhouse. If double seed is sown, you may get ten per cent of double flowers, and if you do, you are doing well. Single dahlias can be grown from seeds as annuals. They bloom when about four months old from the seed.

The verberna is my special favorite, and one of the easiest flowers to grow of this class. Like phlox drummondii, it makes a brilliant display, when grown in masses and of mixed colors. I have seen the same bed filled with magnificent bloom, year after year, from self-seeded plants, all the care taken with them being the proper thinning and weeding, stirring the soil and pegging down the plants. Give each plant its proper allowance of space, say one foot square, and when the branches come out, peg them down, and keep the bed entirely matted over and thickly covered with the brilliant colors. The bloom will last from July to October,

and then some of the slips may be taken off and transferred to the house, to be kept in bloom right along. The plants of this list can stand a light autumn frost, but no freeze.

All the annuals named in this and the former article may be planted in the open border, preferably in clumps, rings or in masses, and properly thinned to from six to twelve inches apart each way. I also commend the free use of flowers. Pluck them to your heart's content. Make the meals more cheerful and enjoyable by having flowers on the table. Let the children, and the neighbors' children, too, have all the flowers they desire. The more you pluck, the more will grow.

TENDER ANNUALS.—To the lists already named we must yet add a few tender annuals. These are to be sown when the ground has become warm, or at the time we usually plant melons, squashes and other vine fruits. Foremost among this class of flowers, and as easily grown as corn, is the balsam, or lady's slipper, which grows eighteen or twenty inches high, and blooms in all sorts of colors, from July to September. Next, we have the cockscomb, usually of crimson or similar shades, blooming in August and September. The monkey flower, or mimulus, also of various colors, blooms in July or September. For hot and dry positions, rockwork, etc., the portulaca, both double and single, and of various colors, is admirably suited. It belongs to the "purslane" family, and is about as proof against drouth and rough treatment, reproducing itself freely from seed, year after year.

For a plant of tropical appearance, easily grown in warm, rich soil, and decidedly attractive, but somewhat late, is the castor-oil plant, or ricinus. Of this there are some fine sorts, with dark or bronzed foliage, but all have the same character, and will be found useful.

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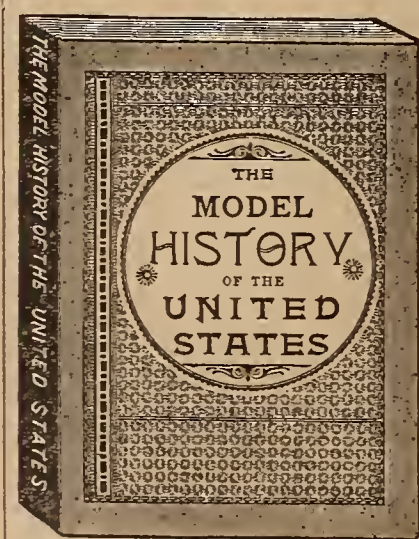
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So cherish that mother, my boy.
You have only one mother who will
Stick to you through good and through ill
And love you although
The world is your foe—
So care for that love ever still.
You have only one mother to pray
That in the good path you may stay;
Who for you won't spare;
Self-sacrifice rare—
So worship that mother alway.
You have only one mother to make
A home ever sweet for your sake,
Who toils day and night
For you with delight—
To help her all pain ever take.
You have only one mother to miss
When she has departed from this,
So love and revere
That mother while here,
Sometime you won't know her dear kiss.
You have only one mother, just one,
Remember that always, my son;
None can or will do
What she has for you.
What have you for her ever done?
—B. C. Dodge.

THE queen of all bees, says Uncle John, is a
busking bee. You can tell her by her red ear.
Two pounds of copperas to a gallon of water,
sprinkled over a foul-smelling drain, coop, pen
or vault, will sweeten it.

Carpet salesman—"Yes'm, that's genuine
Brussels, made at Brussels by Mr. Brussels him-
self."—Rochester Budget.

NEVER use the first water that comes from a
pump or hydrant; it has been in a lead or iron
pipe all night, and is not healthful.

"No," said the boodle alderman, "I shall
not lend my vote to such a thieving scheme."
And he didn't lend it. He sold it.—The Spell-
binder.

The boarding-house keeper who gives her
boarders oleomargarine instead of butter,
provides them with the fat of the land.—
Boston Post.

If the fishy taste in wild game is objec-
tionable, it can be removed by putting a small
onion, cut fine, into the water it is cooked in,
or carrots if onions are not liked.

Judge—"Why don't you answer the ques-
tion just put to you?" Prisoner—"Well, give
me time, can't you?" Judge—"Certainly.
Thirty days! Next case."—Yonkers Statesman.

He sawed wood—"I don't see how Jones ever
made such a success," said one of his friends,
to another. "He never says anything."
"Maybe that's the reason," was the reply.
—Somerville Journal.

A floating newspaper paragraph says that
a Halifax lady, aged eighty, has just begun
taking piano lessons. Even the old and feeble
can get square with their neighbors when
they go about it right.

WALKER FEARN, late United States minister
to Athens, states that brigandage no longer
exists in Greece. He says that he and his
daughter and a few friends, unarmed and
without an escort, visited on horseback the
wildest parts of Greece, and met with nothing
but cordial hospitality.

"No use talkin' to me 'bout layin' up money
for a rainy day," said Uncle Ebo, addressing
an attentive group; "no use talkin' dat way to
a man wld sich luck as I always hab. Why,
great Scott! If I was to lay up money for a
rainy day, we'd hab a drouth for forty years.
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sort o' trap."

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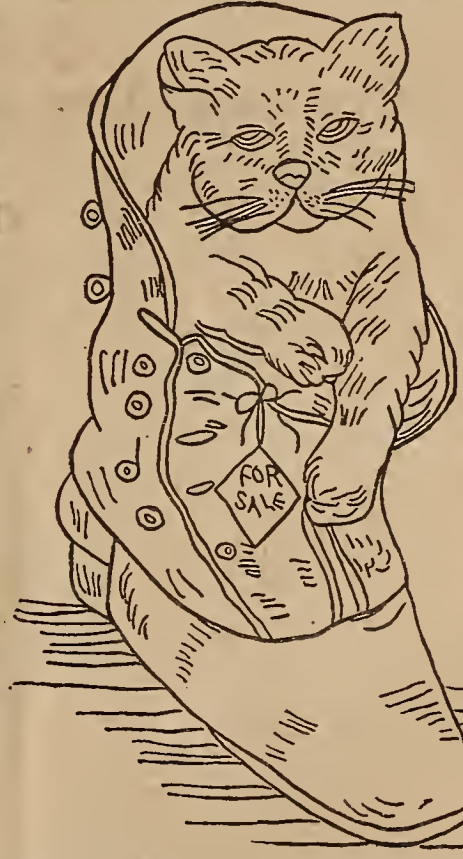
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- 1 Vine for Silk Embroidery, 2 1/2 inches wide.
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- 1 Design Swan, 4 1/2 in. high.
- 1 Outline design, Sunrise.
- 1 Star.
- 1 Spray Sunac.
- 1 Design Rose buds.
- 1 Pansy.
- 1 Spray Daisies.
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And a crashing
In the residence next door.
Such a riot
Ne'er the quiet
Neighborhood has known before.

What's the matter?
Why such clatter
Bidding comfort elsewhere rove?
Ah! our neighbor
Now doth labor
Putting up the parlor stove.

THE MISSIONARY SPIRIT.

THE missionary spirit in its best phases is undoubtedly noble, even if it should sometime chance to be mistaken in its application, says the *Boston Courier*, and one should have patience with those who find themselves inclined to forget the poor at their gate in brooding over the condition of those afar.

One of these people was recently visited by a friend, who said to her:

"I have come to you for a dress for a poor girl who has been sick, and must be decently clothed so that she can find work. We have really exhausted our resources at home, there has been so much sickness this winter and so many calls, and, though they said that you do so much for the missionaries that it is of no use to ask you to do anything for the poor at home, I thought that this once you might break over your usual custom and let the heathen wait a little for the sake of those at home."

The other looked at her caller with a solemn air and kept silent a moment.

"That is precisely what I said to myself, my dear," she answered. "I considered the whole question very carefully, and at one time I did think that for this winter I would give all that I had to give at home. I thought that the heathen were used to doing without clothes, so that it really could not make so much difference to them, and besides, it is so much warmer in their countries that the poor things do not suffer; but when I remembered that they are not only indecently clad, but that they don't in the least know it, I assure you, my dear, it gave me a shock that I couldn't get over, and I hadn't the heart to spare a single cent for home missions. At any rate, no matter how badly off girls are here, they do know enough to know that they shouldn't go about half naked."

Is it to be wondered at that the caller felt that it would be worse than useless to try argument against a state of mind like this, but gave up her errand on the spot?

HIS MANDY.

He shuffled in, leaned up against the apple-barrel, poured half a pint of tobacco juice on the stove, and said:

"None o' yo fellers an't seen nothin' o' my Mandy, hev ye?"

"What kind o' lookin' woman was she?" asked the storekeeper.

"Kind o' thin and tall; erhout my age, an'—"

"There's a tall, thin woman over in the jail now, arrested for stealin' a hoss."

"I dunno. Maudy was never given much to stealin'—"

"Well, this woman pleaded guilty, an'—"

"That ain't Mandy. No sree. Mandy'd never plead guilty to nothin'. No matter what you cotched her adoin' she'd hev an excuse. Every time. Mandy was to meetin' oncet, an' fell asleep, an' snored so you'd think she was a sawin' wood with ten knots to the foot, an' when the preacher accused her o' sleepin' in meetin', she got very wrathly, an' told him that was the way she prayed. No, yo couldn't cotch Mandy without an excuse."

At last accounts Mandy hadn't given her other half any excuse for her absence.—*Philadelphia Inquirer*.

HOW TO RAISE BOYS.

Mrs. Hobbs (parent of an infant terror and several half-grown terrors)—"Well, Mr. Hobbs, since you are so dissatisfied with the way I am raising our darling Willie, may be you will condescend to inform me how you would raise boys."

Hobbs—"Certainly, every boy ought to be kept in a hogshead and fed through the bung-hole until he is twelve years of age."

"And when he reaches the age of twelve?"

"Stop up the bung-hole."—*Time*.

DESTRUCTIVE TO THE MEMORY.

A.—"I have just discovered what it is that destroys memory most completely."

B.—"Alcohol?"

"No."

"Tobacco?"

"No."

"Morphine?"

"No. It is doing a man a favor."—*Texas Siftings*.

HOW DID HE LEARN SUCH TALK?

A little boy of four years has for some time had a habit of waking about midnight and calling for a drink of water. At last his mother told him one evening as he was put to bed, that she would not get up any more to wait upon him; that she would put a pitcher of water and a glass on the stand near the bed, and that if he wanted water in the night, he must get up and get it himself. She placed the water on the stand, in his sight, and left him.

That night, at the usual time, she heard the boy's call:

"I want a d'ink o' water! I want a d'ink o' water."

But she paid no attention. He called two or three times, and after he had whimpered a bit she heard him get up and thump along the floor to the stand. And then through the darkness came this very positive ejaculation:

"I hope I thpill every jam jop!"—*Boston Transcript*.

BEATING THE NICKEL IN THE SLOT.

"Gimme a nickel's worth of buckshot," said a St. Paul gamin, wearing somewhat disordered raiment. His head, says the *Pioneer Press*, just topped the counter in a bazar devoted to sporting goods.

"I suppose he will load them into a rusty pistol, and accidentally shoot some one of his intimate friends," suggested a bystander.

"Oh, no," replied the proprietor of the gun store, "he has no firearms. He is going in to beat the nickel-in-the-slot scheme, and I suppose I am particeps criminis."

"How?"

"Why, he will put them on the street-car track; the car will convert them into the exact size of nickels and pennies; and of course, you can anticipate the financial panic liable to ensue in St. Paul, shortly, with a gnm-machine at almost every corner."

WOULDN'T BREAK THE SET.

A little boy of five went with his mother to make a call. The lady of the house, who was very fond of children, told him she intended to ask his mother to let her have him. "Don't you think that your mother would let me buy you?" she asked.

"No," he said, "you haven't got money enough."

"How much would it take?" she asked.

"Three hundred dollars," he answered, promptly; "and you haven't got that much."

"I think I could manage it," she said. "If I can, will you come to me?"

"No," he said, with decision. "Mamma wouldn't sell me, anyhow. There are five of us, and mamma wouldn't like to break the set."—*Harper's Young People*.

HE BOUGHT EVERYTHING.

"I pay you dot cold cash for your store, und now Moses Grapenheimer say he hafe a shattel mortgage on it."

"Vell, you puy eberytings on dose shelves an' counters, don't it?"

"Yaw, dot vas so."

"Vell, dot shattel mortgage vas on dose shelves un counters dot five years."

A NOBLE EPITAPH.

"I recall," said Dr. Lyman Abbott at the New England dinner in Philadelphia, "an old cartoon in the *Harvard Lampoon*, which depicted two ladies looking at a milestone near Boston, which was marked, 'I m from Boston.' One of the ladies remarked, to her companion, 'What a noble epitaph—'I'm from Boston.'"

A NARROW ESCAPE.

"If it hadn't been for me little Harry Parker would have gotten a good licking to-day, ma. He struck me, you know."

"And what did you do, my son?"

"I didn't hit him back."

LIMITS TO HIS RAGE.

Angry subscriber to editor—"I'm mad all through, an' I want my paper stopped."

"Yes, sir; do you want to pay what you owe?"

"No, I ain't mad enough for that."

LITTLE BITS.

"Poets are born, sir," he said, haughtily, as he rolled up his manuscript. "And I'm dog-goned sorry for it," said the editor.—*Merchant Traveler*.

She—"You are very kind to invite me to go sleighing, but—did your horse ever run away?" He—"Often. You see, I am careless about horses, and often let the reins fall to the bottom of the sleigh, and drive with my feet." She—"I'll go."—*New York Weekly*.

CONSUMPTION CURED.

An old physician, retired from practice, had placed in his hands by an East India missionary the formula of a simple vegetable remedy for the speedy and permanent cure of Consumption, Bronchitis, Catarrh, Asthma and all Throat and Lung Affections, also a positive and radical cure for Nervous Debility and all Nervous Complaints. Having tested its wonderful curative powers in thousands of cases, and desiring to relieve human suffering, I will send free of charge to all who wish it, this recipe in German, French or English, with full directions for preparing and using. Sent by mail, by addressing, with stamp, naming this paper, W. A. NOYES, 820 Powers' Block, Rochester, N. Y.

IMITATION IS THE SINCEREST FLATTERY.

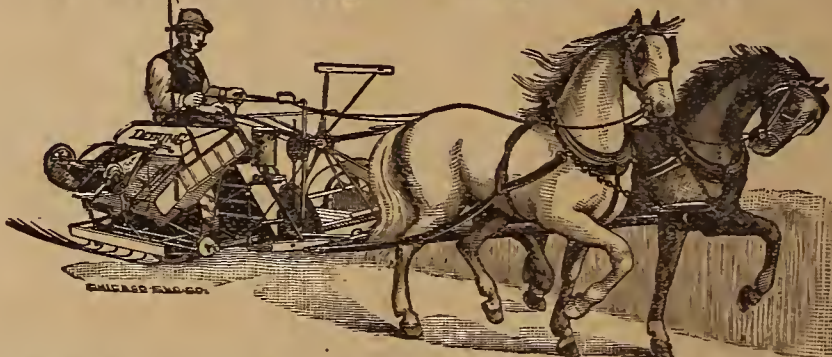
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Recent Publications.

HENDERSON'S HANDBOOK OF PLANTS AND GENERAL HORTICULTURE. This is a new, revised and enlarged edition of the "Handbook of Plants," issued in 1881. Having been completed only a short time before his death, it represents the last literary work of that veteran seedsman, horticulturist and florist, Peter Henderson. It is at once a botany for plain people, and an encyclopedia of gardening, giving, in plain English, botanical knowledge and concise instruction in all lines of horticultural work. Being arranged in alphabetical order, it is a handy book of reference for everything relating to general horticulture. It is a bound volume of 526 pages, and contains about 800 illustrations. Price, \$4, postpaid. Published by Peter Henderson and Co., 35 and 37 Cortlandt street, New York.

THE PRACTICAL HORSESHOER. A collection of articles on horseshoeing in all its branches which have appeared from time to time in the columns of *The Blacksmith and Wheelwright*, including a chapter on ox shoeing and another on horse physiognomy. Compiled and edited by M. T. Richardson. Profusely illustrated. New York, M. T. Richardson, publisher, 1890. If all drivers of horses would carefully read this work there would be fewer horses lamed by careless and incompetent blacksmiths.

CATALOGUES RECEIVED.

Catalogue of Plant Seed Co., St. Louis, Mo.
Catalogue of everything in seeds. A. D. Perry & Co., Syracuse, N. Y.
Seed Annual for 1890. John Gardiner & Co., 21 North 13th street, Philadelphia, Pa.
General catalogue of Mount Hope Nurseries, Ellwanger & Barry, Rochester, N. Y.
Ely's Garden Manual. Z. De Forest Ely & Co., 1303 Market street, Philadelphia, Pa.
Catalogue of strawberries, raspberries, blackberries, grapes, etc. D. Brandt, Bremen, Ohio.
Catalogue of seeds, plants, bulbs, etc. Isaac F. Tillinghast, La Plume, Lackawanna county, Pa.

Large, small fruits, general supply of nursery stock, etc. Geo. J. Kellogg & Sons, Janesville, Wis.

Annual descriptive catalogue of seeds offered by Alfred Bridgeman, 37 East 19th street, New York.

Fruit and ornamental trees, small fruits, plants, etc. Maplewood Fruit Farm, Covington, Ohio.

Seeds—garden, field and flower—fertilizers, etc. Robert C. Reeves & Co., 185 Water street, New York.

Catalogue of grain drills, cultivators, hay rakes, etc., made by P. P. Mast & Co., Springfield, Ohio.

Farm Annual for 1890. One of the best catalogues. W. Atlee Burpee & Co., Philadelphia, Pa.

Illustrated catalogue of John R. & A. Murdoch, nurserymen, florists and seedsmen, Pittsburg, Pa.

Descriptive catalogue for 1890 of grape vines and small fruits. Joel Homer & Son, Delair, Camden county, N. J.

Illustrated catalogue of vegetable and flower seeds. W. W. Rawson & Co., 34 South Market street, Boston, Mass.

Small fruits, apple, pear, plum, peach, quince, deciduous trees, seeds, etc. E. W. Reid, Bridgeport, Ohio.

Catalogue of Champion harvesting machinery. The Warder, Bushnell & Glossner Co., Springfield, Ohio, and Chicago, Ill.

Catalogue of Vaughan's Seed Store, 148 North Washington street, Chicago, Ill.

Semi-annual price list of American grape vines grown and for sale by Bush & Son & Meissner, Bushberg, Jefferson county, Mo.

Lovett's Guide to Horticulture. Sent, with colored plates, on receipt of 10 cents; without colored plates, free to all who mention this paper.

We are in receipt of a novelty—a new broom-corn millet. A sample of same, with catalogue, will be sent on receipt of two-cent stamp by J. A. Lucas, Watertown, S. Dak.

Catalogue of Clydesdale, Englishshire, Cleveland Bay and Percheron horses, imported and bred by Door Prairie Live-Stock Association, Door Village, La Porte county, Ind.

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Name on 25 Pink Floral Cards, 375 Pictures, Verses and Games, 1 Ring, 1 Album, 1 Pencil and Book of Fringed Cards, 10c. Tuttle Bros., North Haven, Ct.

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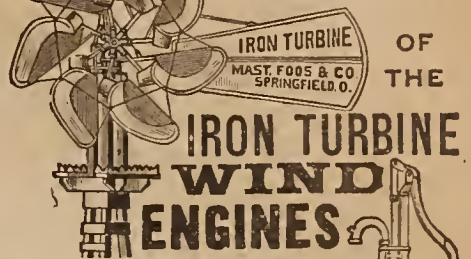
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To introduce them, one in every County or Town, furnished reliable persons (either sex) who will promise to show it. Borden Music Box Co., 7 Murray St., N. Y.

MATRIMONIAL PAPER. Contains nearly 300 advertisements of ladies & gents wanting to correspond for fun or matrimony. Sample copy, sealed, 10c. HEART AND HAND, Chicago, Ill.

JOHN WILLARD writes from Olinburg, Ind., Nov. 23.—Dyke's Beard Eliminator produced a heavy mustache on my upper lip in 4 weeks. My face was entirely smooth. Hundreds more. SMITH MED. CO., Palatine, Ill.

CANCER and Tumors CURED: no knife; book free. Drs. GRATIGNY & BUSH, No. 163 Elm St., Cincinnati, O.

OPIUM Morphine Habit Cured in 10 to 20 days. No pay till cured. Dr. J. Stephens, Lebanon, Ohio.

PILES. Instant relief. Final cure in 10 days and never returns. No surgery, no salve, no suppository. A simple remedy mailed FREE. Address, TUTTLE & Co., 78 Nassau Street, New York City.

OPIUM & LIQUOR CURED At home. No pain or nervous shock. Small expense. The LESLIE E. KEELEY CO., Dwight, Ill.

DEAFNESS & HEAD NOISES CURED by ECK'S INVISIBLE TUBULAR EAR CUSHIONS. Whispers heard as loud as shouts. Success in where all remedies fail. 10c. book & proofs free. Address P. H. HIXON, 653 Broadway, New York.

WIVES Should know how child bearing can be effected without PAIN or DANGER and cure their ills. Send for sealed information. A wonderful discovery. DR. J. H. DYE, Buffalo, N. Y.

HAIR REMOVED Permanently, root and branch, in five minutes, without pain, discoloration or injury with "Pills Solvane." Sealed particulars, 6c. Wilcox Sensitive Co., Phila., Pa.

RUPTURES CURED by my Medical Compound and Improved Elastic Supporter Truss from 30 to 90 days. Reliable references given. Send stamp for circular, and say in what paper you saw my advertisement. Address Capt. W. A. COLLINGS, Smithville, Jefferson Co. N. Y.

I CURE FITS! When I say cure I do not mean merely to stop them for a time and then have them return again. I mean a radical cure. I have made the disease of FITS, EPILEPSY or FALLING SICKNESS a life-long study. I warrant my remedy to cure the worst cases. Because others have failed is no reason for not now receiving a cure. Send at once for a treatise and a Free Bottle of my infallible remedy. Give Express and Post Office. H. G. ROOT, M. C., 183 Pearl St. New York.

ON 30 DAYS' TRIAL. THIS NEW ELASTIC TRUSS Has a Pad different from all others, is cup shape, with Self-adjusting Ball in center, adapts itself to all positions of the body, while the ball in the cup presses back the intestines just as a person does with the fingers. With pressure the Hernia is held securely day and night, and a radical cure certain. It is easy, durable and cheap. Sent by mail Circulars free. EGGLESTON TRUSS CO., Chicago, Ill.

If afflicted with sore eyes use Dr. Thompson's Eye-Water

Gleanings.

BURN YOUR OLD LETTERS.

So much mischief has been done by the foolish habit of keeping old letters, that it is wise to adopt the rule of destroying them at once. Their mission is ended, what are they good for? "I may like to read them while recovering from an illness," says some one. Pshaw! As if these would be the tonic you needed at such a time. Better far a breath of pure air. We are all prone to brood too much at such times, and need no such help in that direction. Let this plea for the burning of letters be a strong one. Business letters should be filed and labeled. Have a blank book into which copy such dates or extracts as may be of value in the future for references. This can be done when letters are answered. Then burn them and see the ashes. It is the sorrows instead of the joys that most letters contain. They are the safety-valve for deep feeling from friend to friend, good in their time, but sometimes worse than useless in the future. Every day brings new experiences. We are constantly changing, and in many cases would be ashamed of our own letters written ten years ago.

EGYPTIAN EGGS.

Apropos of Egyptology, which is fashionable just now, the farmer and the practical woman of affairs may take a lesson from modern Egypt in hatching chickens. Under the shadow of the pyramids, there are immense hatching establishments which turn out little chicks at the rate of five hundred thousand every year; and the whole chicken crop is estimated by competent authority to be more than twenty millions of chickens a year.

By all the principles of political economy an inquiry ought to be instituted into the Egyptian methods of incubation, so that we here in the United States should have at any rate chickens enough for home consumption, instead of importing, as we do now, more than sixteen million dozen of eggs every year.

When one of the youngest nations has learned something of this subject from the oldest nation, then every family may, perhaps, have what Henri of Navarre wished for his subjects—a chicken in the pot.

IDLE WISHES.

Idle wishes are those which begin and end with themselves. They lead to no effort, they develop no energy, they inaugurate no plan of action. It would probably astonish most of us could we realize truly how many of our wishes were of this character. Sometimes they relate to a past which is irrevocable. Men wish that they had inherited property, or a healthier constitution, or better tendencies—that they had been brought up under better auspices, or trained with more care or wisdom—that they had made different decisions, or pursued different courses, or been led by different advisers. Such wishes, while they naturally glance upon us as unavoidable regrets, should be but the passing guests of a moment. Save as they may suggest improvements for our future, they are useless and exhausting.

A TRUSTWORTHY GUIDE FOR THE GARDEN.

Of the numerous Seed Catalogues published none is more thoroughly trustworthy than Burpee's Farm Annual, issued for gratuitous distribution by W. Atlee Burpee & Co., the well known Philadelphia Seedsmen. The new edition for 1890 is brighter and better than any preceding; it is handsomely bound in lithographed cover representing new flowers from nature and views of portions of their Fordhook Seed Farm; it is fully illustrated with hundreds of engravings from nature and colored plates of valuable new vegetables, including Burpee's Bush Lima Bean, remarkable as the first and only perfect dwarf form of the luscious large Lima Bean.

W. Atlee Burpee & Co. annually test for purity and merit, as well as vitality, all the seed they sell—their field trials alone at Fordhook Farm the past season numbering four thousand four hundred and eighty-three (4,483) separate samples. The exceptional care given to the growth and testing of all seeds by this house has established for it an enviable reputation throughout the world, and their Farm Annual for 1890, which is mailed free on application, will be found in every respect a thoroughly trustworthy guide for the farm and garden.

OUR MAMMOTH CHRISTMAS BOX

Our object in getting up this Mammoth Christmas Box is to introduce to the American people our "Sweet Home" Family Soap and Fine Toilet Articles. They are the purest, best, and most satisfactory, whether made in this country or Europe; everyone who uses them once become a permanent customer. We propose a new departure in the soap trade and will sell direct from our factory to the consumer, spending the money usually allowed for expenses of traveling men, wholesale and retail dealers' profits, in handsome and valuable presents to those who order at once. Our goods are made for the select family trade and will not be sold to dealers, and to induce people to give them a trial we accompany each case with many useful and valuable presents.



Even the babies are delighted when the Christmas Box arrives and it will make 100,000 boys, girls, men and women, old and young, just as happy; because it contains the greatest lot of Christmas Presents ever seen. Beautiful things! Something for everyone in the family, father—mother—all of the boys and girls—the baby—and hired girl.

We want a few reliable men and women who have used our goods and know their great value to show the premiums advertised, and recommend our soap and toilet articles in their respective neighborhoods; this is a pleasant and very profitable employment, as we pay for the service, either in cash or goods, whichever is desired. Many people who advertise for us make over \$5.00 per day.

To Get the Box

Simply write your name and address on a postal card and mail it to us and we will send you the goods (freight prepaid) on 30 day's trial and you are under no obligations to keep the box if it does not in every way meet your expectation. Knowing the great value of our articles, we are willing to put them to the severest kind of a test, hence will send you the box on 30 day's trial and if not satisfactory will remove it. We pay freight only to points in the United States east of the Missouri River.

You had better accept this offer and order a "Christmas Box" at once for if you do not need all of the "extras," you can easily sell them out before the bill is due for much more than cost of the case, and thus get a year's supply of soap for your own use for nothing.

Our Price for the Mammoth Christmas Box Complete is \$6 Charges paid.

J. D. LARKIN & CO., Factories—Seneca, Heacock and Carroll Streets, BUFFALO, N. Y.

Some people prefer to send cash with order; we do not ask it, but in such cases we place one Solid Silver Sugar Spoon in the box (in addition to all the other extras) and ship the same day the order is received, freight prepaid, all other orders being filled in their turn.

REMEMBER "Sweet Home" Family Soap is an extra fine, pure soap, made from refined tallow and vegetable oils. On account of its firmness & purity each cake will do double the work of the common cheap soaps usually sold from groceries.

OUR firm has been in the Soap business many years, and as to our reliability refer to the publishers of this paper, Commercial Agencies or any banker in the United States. When in Buffalo, call on us, you will be welcome.

The following are articles of our own manufacture which we take great pride in presenting to the readers of this paper. Send us your name on a postal card and we will deliver you freight prepaid, on terms given below, a Mammoth Christmas Box containing all of the articles named below:

ONE HUNDRED CAKES "Sweet Home" Family Soap enough to last a family one full year. This Soap is made for all household purposes and has no superior.

SIX BOXES BORAXINE.

One-Fourth Dozen Modjeska Complexion Soap.

One Bottle Modjeska Perfume.

One-Fourth Dozen Ocean Bath Toilet Soap.

One-Fourth Dozen Artistic Toilet Soap.

One-Fourth Dozen Creme Toilet Soap.

One-Fourth Dozen Elite Toilet Soap.

One English Jar Modjeska Cold Cream.

Soothing, Healing, Beautifies the Skin, Improves the Complexion, Cures Chapped Hands and Lips.

Our Mammoth Christmas Box Contains a great variety of Toys, Playthings, etc., for the Babies, and sundry useful and amusing things for the older folks. It also contains:

ONE SET (6) SOLID SILVER TEA SPOONS, PLAIN PATTERN—SUCH AS YOUR GRAND-MOTHER USED, VERY RICH AND ELEGANT. (Will Last a Life Time.)

One fine Silver-plated Button Hook.

One Lady's Celluloid Pen Holder (very best).

One Arabesque Mat.

One Glove Buttoner.

One Package "Steadfast" Pins.

One Spool Black Silk Thread.

One Gentleman's Handkerchief, large.

Fourteen Patent Transfer Patterns for stamping and embroidering table linen, toilet mats, towels, tidies, etc.

One Lady's Handkerchief.

One Child's Lettered Handkerchief.

One Wall Match Safe.

One Package Assorted Scrap Pictures.

Two Celluloid Collar Buttons, (patented).

Twenty-three Pictures of the Presidents of the U. S.

In addition to all of the above articles we place in each box **ONE ALBUM** containing pictures of the following celebrities:

- | | |
|--------------------------|------------------------|
| 1. Wm. E. Gladstone, | 13. General Scott, |
| 2. Bismarck, | 14. Thomas Edison, |
| 3. Daniel Webster, | 15. Benj. F. Morse, |
| 4. J. G. Whittier, | 16. Jos. Jefferson, |
| 5. Geo. Bancroft, | 17. Benj. Franklin, |
| 6. Abraham Lincoln, | 18. Henry M. Stanley, |
| 7. Ulysses S. Grant, | 19. Oliver Perry, |
| 8. Robert E. Lee, | 20. Goethe, |
| 9. Gen. Sheridan, | 21. Schiller, |
| 10. Thos. Carlyle, | 22. Alex. Hamilton, |
| 11. Commodore Farragut, | 23. John Howard Payne, |
| 12. "Stonewall" Jackson, | Etc., Etc., Etc. |

SPECIAL OFFER TO OUR SUBSCRIBERS.

Two Papers for About the Price of One.

The regular subscription price of the Atlanta Constitution is \$1.00, and of the Farm and Fireside 50 cents.

For a short time only we offer

Both Papers for Only \$1.10.

Send your Subscription at once, with enclosure of \$1.10, and Receive Both Papers One Year. Or send \$1.60 and receive both papers one year and a copy of the Peerless Atlas of the World, described on page 195. Or mention Farm and Fireside and address The Constitution, Atlanta, Ga., and receive a sample copy of that paper free.

THE ATLANTA CONSTITUTION

The Great Southern Weekly, has the largest circulation of any weekly newspaper in the United States. Its books and press room are always open to the public and inspection is invited. Circulation every week, 140,000. Every northerner ought to read it. It is the representative newspaper of the South, and as such should go into the home of every person in the North who wants to be posted on the affairs of the South.

The Weekly Constitution wants an agent in every community in the country, and it offers greater inducements to agents than any other newspaper in the United States. Send for an agent's outfit and you can make money for yourself. It is a very easy paper to place in the hands of the people of the North, who are ready to subscribe for a representative Southern newspaper.

The Weekly Constitution is a twelve-page paper, and its news and special service is not excelled by any paper published. Its agricultural features are as complete as money and ability can make them, and its corps of special writers are taken from the ablest talent in the country. Joel Chandler Harris, "Uncle Remus," is regularly engaged on the Constitution, and his inimitable writings appear in every number. Among his other special contributors are Bill Arp, the famous southern humorist philosopher, Betsy Hamilton, the most perfect cracker dialect writer in the South, W. P. Reed, Dr. W. L. Jones, who conducts our farmer's department, and whose name is a household word among the farmers of the South. Dr. T. DeWitt Talmage, by special arrangement, furnishes the Constitution every week with his celebrated Sunday sermons. This arrangement has just been renewed for the present year. This is not all. There are hundreds of regular correspondents throughout the country who contribute regularly to the columns of the Constitution, and no expense is spared to obtain the best talent that the field of Journalism affords. The people of the North will find in the Constitution a representative southern newspaper.

Remember that it only costs you \$1.10 for the Weekly Constitution and the Farm and Fireside. This unprecedented offer is limited, therefore send in your subscription at once. If you are already a subscriber, you can have your subscription advanced one year by accepting the above offer.

Subscriptions for the two papers should be addressed to the publishers of this paper as follows:

FARM AND FIRESIDE Philadelphia, Pa., or Springfield, Ohio.

For sample copies of THE CONSTITUTION, or an agency for that paper, mention FARM AND FIRESIDE and write to THE CONSTITUTION, Atlanta, Ga. There's money in it.

\$2.50 FOR ONLY \$1. ALL FOR \$1.

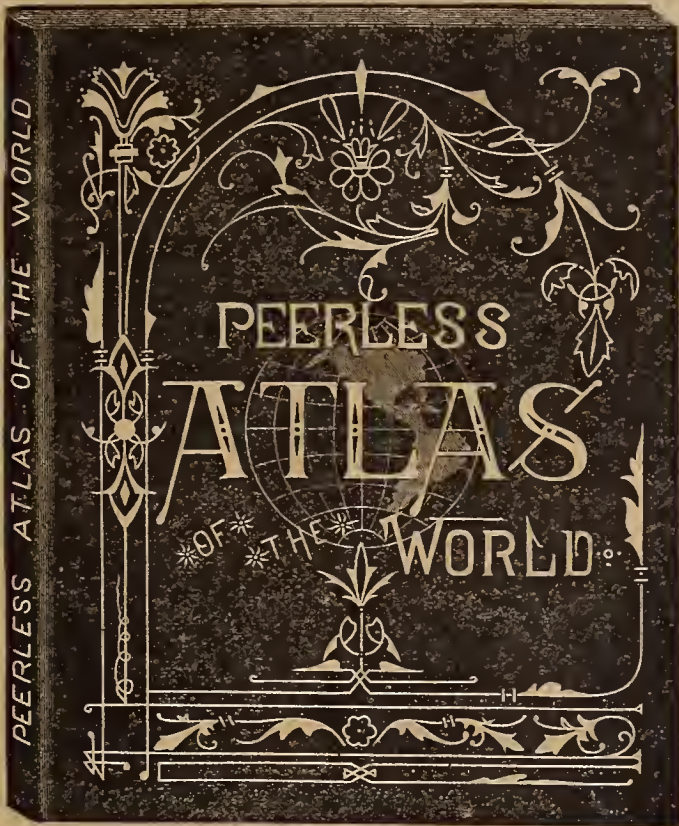
The Regular Price of the Peerless Atlas is \$1,
The Ladies Home Companion one year, 50 cents,
The Farm and Fireside one year, 50 cents,

Any person sending us \$1 within 30 days from date of this paper will receive both papers one year and a copy of the Peerless Atlas, all sent by mail, postpaid.

\$2.50 If you send a NEW subscriber who accepts the above offer, you will receive the Farm and Fireside one year free. In this case the NEW subscriber will receive both papers one year, and the Atlas, and you will receive the Farm and Fireside one year, making \$2.50 value for only \$1. This offer is good for 30 days. Read "Who is a NEW subscriber?" at foot of this page. **\$2.50**

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with the Chief Productions, Principal Indus-
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in 1880, 1884 and 1888, by States.
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Every Home, Store, Office and Counting-
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THE BEST ATLAS IN THE WORLD FOR THE PRICE.

In this progressive age, no well regulated home is without a good household paper for the housewife. Of course the "gude mon" takes his paper, keeps posted on improvements in machinery, and is continually striving to learn that which is of importance to his business. So the household paper is of equal value to the mother and daughters. The women need the paper to learn of the improvements in home-making, to increase happiness in the house, to know the latest fashions, and to properly prepare the daily meals, as well as to supply food for the mind. See that your wife receives the

LADIES HOME COMPANION

Regularly, or if you neglect it, we trust she will call your attention to it and insist that you send for the paper. It is published semi-monthly, and is the most popular home paper for ladies, representing every phase of home life, fashion, domestic economy, care of children, social etiquette, etc., having a circulation of 100,000 copies each issue. It stands without a peer in literary excellence, typographical beauty, suggestive illustrations and helpful advice for the household. It is beautifully illustrated, and printed on fine, cream-tinted paper, and has a more brilliant array of contributors than ever before, consisting of

EIGHT REGULAR EDITORS AND SCORES OF EMINENT WRITERS,

Whose facile pens will furnish Short and Continued Stories of absorbing interest, while all branches of household economy that can possibly come within the good housewife's province will be ably treated by experienced editors, and use, beauty and refined entertainment have due attention.

REMEMBER, the Peerless Atlas will be mailed to any address, postpaid, for only \$1, including one year's subscription to both papers, the Ladies Home Companion and the Farm and Fireside. Or the Atlas will be mailed free as a premium to any one sending 3 new yearly subscribers to this paper, at 50 cents each. No commissions or premiums allowed club raisers when subscribers accept any of these special offers. These liberal offers are limited to 30 days from date of this paper, so accept at once.

If you are already a subscriber to either paper, you can have your subscription advanced one year from present date on yellow label by accepting any offer on this page.



\$1.75 FOR ONLY 75 CENTS.

Any person sending us 75 cents within 30 days from date of this paper, will receive the Ladies Home Companion one year, the Farm and Fireside one year, and a copy of this Magnificent Picture, all sent by mail, postpaid.



[Premium No. 100.] SIZE, 21 by 28 INCHES.

DESCRIPTION OF THE PAINTING The scene chosen for the painting is the "Judgment Hall" in the palace of Pilate, and the hour "early in the morning." Around the Governor the priests are gathered, and the high-priest, Caiaphas, is accusing Christ and demanding his death. The central figure, and the most impressive of all, is Christ himself, clad in white, with flowing hair and bound wrists. He stands alone in the simple majesty of his own personality, without sign or symbol, save his individual greatness. A heavenly submission is on his face.

MOST COSTLY PAINTING IN THE WORLD

The United States Postmaster-General paid over One Hundred Thousand Dollars for the Famous Painting entitled "Christ Before Pilate."

The intense interest shown by all classes in this great painting induced the publishers of this journal to spend thousands of dollars to secure an accurate copy, in the Original Colors, of this Wonderful Work of Art. In order to do this, they engaged the best artists and engravers in this country to make an accurate, faithful copy of this magnificent painting. The artists successfully finished their work, and have produced a highly artistic and very beautiful Oleograph copy or reproduction of Munkacsy's great painting, "Christ Before Pilate." Therefore we are now prepared to mail, postpaid, a copy of

This Grand Picture Free to Every One

Who sends 50 cents for this paper one year, within 30 days from date of this paper; or to any who sends 75 cents for this paper and Ladies Home Companion, both one year, within 30 days.

A Copy of the Picture will also be Given Free to Any One who secures a NEW Subscriber to this Paper at 50 Cents a Year.

In the latter case the subscriber is not entitled to a picture free, as only one picture can be given with each yearly subscription, at 50 cents, and that only for a limited time in order to introduce it.

All the colors in the original painting are faithfully reproduced in our picture, and it is

Equal in Size and Artistic Merit to Pictures Sold in Stores for \$10.00 Each.

WE GUARANTEE SATISFACTION or will refund the money to any one who is in the least dissatisfied, if the picture is returned in good order. Remember, this Grand Picture is given Free as a Premium to any one sending one NEW yearly subscriber, at 50 cents. No cash commission or premium allowed club raisers when subscribers take advantage of our special offer of the picture and one year's subscription for only 50 cents, or the picture and two papers for 75 cents.

WHO IS A NEW SUBSCRIBER?

A new subscriber must be a person who is not now on our subscription list, and whom you have solicited to take the paper. It must not be a change from one member of a family to another, but a genuine new subscriber. Sending your own subscription, or the name of your wife, husband, or any member of your family, is not sending a new subscriber in the sense we intend it, and will not entitle you to a premium.

For any article on this page, address letters to **FARM AND FIRESIDE, Philadelphia, Pa., or Springfield, Ohio.**

Always mention this paper when answering advertisements, as advertisers often have different articles advertised in several papers.

